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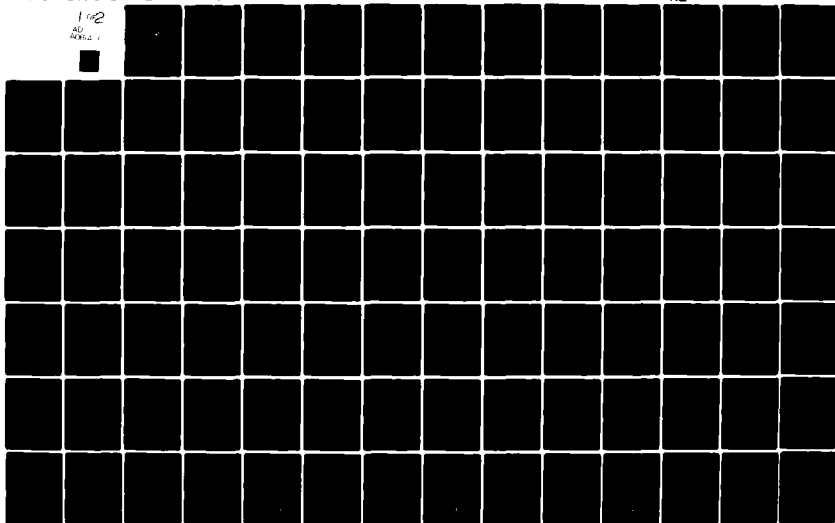
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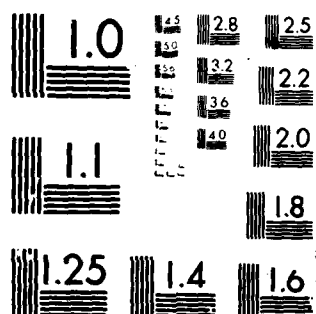
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CONTAMINATION DISPERSION IN ESTUARIES  
NEW YORK HARBOR

WILLIAM S. KATZ



MISCELLANEOUS PAPER NO. 2435

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# CONTAMINATION DISPERSION IN ESTUARIES

## NEW YORK HARBOR.

Hydraulic Model Investigation, Report 3.



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## Preface

This report is one of a series describing flushing tests conducted for the Nuclear Projects Office, Maritime Administration, U. S. Department of Commerce, on several hydraulic models of estuaries. These reports simply present the data obtained in the tests; analysis of the data and preparation of a comprehensive report will be done by Dr. Donald W. Pritchard, Director of the Chesapeake Bay Institute, Johns Hopkins University.

The tests were requested by the U. S. Department of Commerce in a letter, dated 11 June 1958, to the Director, U. S. Army Engineer Waterways Experiment Station. The Office, Chief of Engineers, authorized the Waterways Experiment Station to perform the tests in first indorsement, dated 9 July 1958, to Waterways Experiment Station letter of 27 June 1958.

The tests were conducted under the general supervision of Messrs. E. P. Fortson, Jr., Chief, Hydraulics Division; G. B. Fenwick, Chief, Rivers and Harbors Branch; and H. B. Simmons, Chief, Estuaries Section, and under the immediate supervision of Mr. W. H. Bobb.

Director of the Waterways Experiment Station during the course of this investigation and preparation of this report was Col. Edmund H. Lang, CE. Technical Director was Mr. J. B. Tiffany.

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## Contents

	<u>Page</u>
Preface . . . . .	iii
Purpose and Scope of Dispersion Studies . . . . .	1
Scope of This Report . . . . .	1
The Model . . . . .	2
Tests and Procedures . . . . .	2
Preliminary dye-loss determinations . . . . .	2
Test conditions . . . . .	3
Dye concentration and sampling . . . . .	4
Method Used in Reduction of Data . . . . .	6
Test Results . . . . .	6
Tables 1-20	
Plates 1-111	

## CONTAMINATION DISPERSION IN ESTUARIES

### NEW YORK HARBOR

#### Hydraulic Model Investigation

#### Purpose and Scope of Dispersion Studies

1. The increasing use of nuclear reactors in the production of automotive power, both on land and sea, presents new problems pertaining to the dispersal of radioactive wastes that might be released either accidentally or purposely into rivers, estuaries, and harbors. The Nuclear Projects Office, Maritime Administration, U. S. Department of Commerce, is concerned with the probable dispersion patterns of radioactive matter that could be released in accidents involving nuclear-powered ships. Therefore, that agency engaged the Waterways Experiment Station to conduct tests on several existing models of important estuaries in order to obtain data from which dispersion effects could be computed. Reports 1 and 2 of this Contamination Dispersion in Estuaries series, published in April 1959, present the results of the first two series of tests, which were conducted on the Delaware River and Narragansett Bay models, respectively.

2. The third series of tests was accomplished on the New York Harbor model, and the data thus obtained are presented in this report. It is expected that similar flushing tests will probably be made on models of other estuaries, including the Savannah Harbor model now in operation at the Waterways Experiment Station, and the San Francisco Bay model of the U. S. Army Engineer District, San Francisco, California. Subsequent studies will be reported as each series of tests is completed.

#### Scope of This Report

3. This report describes and gives the results of a series of nine tests conducted on the New York Harbor model. These tests involved assumed, simulated accidents of nuclear-powered vessels at the six locations indicated as release points on the location map (plate 1). Accidents were simulated in the Hudson and East Rivers (release points 1 and 2), in the

Upper and Lower New York Bays (release points 3 and 6), and in the Kills (release points 4 and 5). The data obtained in the tests are presented in forms suitable for analysis, but no analysis is made (see Preface).

### The Model

4. The New York Harbor model is of the fixed-bed type and is constructed to linear scale ratios, model to prototype, of 1:1000 horizontally and 1:100 vertically. The prototype area reproduced is shown or described in plate 1. Tides and tidal currents are generated in the reproduced portions of the Raritan, Hudson, and East Rivers by separate but synchronized, secondary, two-way flow-control devices located at the model limit of each stream. Thus, with the primary ocean tide generator, four synchronized tide generators are used to reproduce the flooding and ebbing of tides on the model. The salinity of the model ocean is maintained at the same salinity as the prototype (the salinity scale being 1:1); and the scaled upland discharge of the Hudson River is introduced at Hyde Park, New York. This results in an accurate reproduction of prototype tidal elevations and phases, current velocities, and salinities in plan and vertical throughout the model. Upland fresh-water flows into rivers other than the Hudson are disregarded.

### Tests and Procedures

#### Preliminary dye-loss determinations

5. In this series of tests, as in the two previous series, a tracer simulating radioactive material was injected into the model in a manner representing the release of contamination in an assumed accident to a nuclear-powered ship. Methylene blue chloride dye was selected for use as the tracer for the reasons given in paragraph 6 of Report 1; other information concerning the dye concentration used and rate of dye loss with time is also discussed in Report 1, paragraphs 6-9. Preliminary tests to determine the rate of dye loss were made in the New York Harbor model, as was done in the Delaware River model and described in paragraph 8 of

Report 1, since it could not be assumed that the dye-loss rate would be the same for both models.

6. For the dye-loss tests in the New York Harbor model, the central portion of the model was divided into six sections by constructing temporary dams at approximately miles -6, 0.5, 5, 12, and 16 in the Hudson River; at miles 1, 8, and 15 in the East River; at miles 3 and 8 in the Harlem River; and at mile 2 in Kill Van Kull. Three sections were in the Hudson River and two in the East River, and the last section was made up of Upper Bay and The Narrows. Dye was then injected in each section, with the turbidity and initial dye concentration in each section being adjusted to cover the expected ranges of both during actual testing. The water in each section was circulated by pumps to simulate tidal flow, samples were obtained periodically and analyzed, and dye-loss curves for each section were constructed. The six curves were averaged to obtain a general dye-loss curve for the entire model, and an average correction factor was derived for each tidal cycle after release of the dye. All values of dye concentration included in this report have been corrected by application of the respective factor determined by the age of the dye. Table 1 presents a list of correction factors for dye loss for each cycle from 1 to 100, inclusive. Cycle zero is the injection cycle, which explains the need to correct cycle-1 observations.

#### Test conditions

7. All tests were made for mean-tide conditions. The fresh-water discharge for tests 1, 2, and 5-9 was adjusted to 6000 cfs; this was increased to 12,000 cfs for tests 3 and 4. The 6000-cfs flow was selected for use in the majority of the tests because an examination of current and salinity data indicated that flows of that order of magnitude would produce the maximum upstream movement of contamination. The median fresh-water flow in the Hudson at Hyde Park, New York, is about 12,000 cfs, which was the reason for the selection of that value. Each test involved the release of 6 liters of the dye solution adjusted to an initial concentration of approximately 1000 ppm and to the average density of water in the immediate vicinity of the injection station utilized in that particular test. A rapid-type dye release, in which all dye was injected at a uniform rate during the 3-hr interval (prototype) following local low-water slack, was

used for all tests. Test 1 was terminated 75 tidal cycles after the dye release, but all other tests were continued for 100 tidal cycles. Test conditions are summarized in the following tabulation.

Test No.	Release Point* No. Location	Release Depth	Fresh-Water Discharge** cfs	Actual Initial Dye Concentration ppm†	Salinity ppt	Volume of Contamination cc
1	1 Hudson River Mile 2.0	Bottom	6,000	1019	280	6000
2	1 Hudson River Mile 2.0	Surface	6,000	1028	222	6000
3	1 Hudson River Mile 2.0	Bottom	12,000	973	245	6000
4	1 Hudson River Mile 2.0	Surface	12,000	981	224	6000
5	2 East River Mile 2.0	Middepth	6,000	1024	290	6000
6	3 The Narrows Hudson River Mile -5.2	Middepth	6,000	1084	270	6000
7	4 Kill Van Kull Mile 3.0	Middepth	6,000	1045	276	6000
8	5 Arthur Kill Mile 11.0	Middepth	6,000	1001	286	6000
9	6 Lower Bay Hudson River Mile -9.8	Middepth	6,000	1059	280	6000

\* Location of release points shown in plate 1.

\*\* Fresh-water discharge introduced into the Hudson at Hyde Park, New York.

† Desired initial dye concentration for all tests was 1000 ppm.

#### Dye concentration and sampling

8. The amount of dye necessary to obtain the desired initial concentration of 1000 ppm was based on the fact that the addition of 1 gram of dye to 1 liter of water produces a dye concentration of 1000 ppm. It was found necessary to increase the weight of dye in the above-mentioned ratio to compensate for moisture and impurities. The actual dye concentrations shown in the tabulation are results of final checks of the dye solution and were determined by spectrophotometer analysis. For this analysis, a sample

was taken from the dye solution just prior to its release and diluted at the ratio of 1000:1; from this diluted sample, three samples were taken and analyzed. Thus, each of the actual concentrations in the preceding tabulation is the mean of three samples. The differences between the desired and actual concentrations are considered insignificant and within the probable error of the diluting process. Therefore, an initial concentration of 1000 ppm was used in reducing the results of all tests.

9. Water samples for analysis on the Beckman spectrophotometer were obtained at times of local high-water slack from river mileage stations selected from those shown in plate 1. Surface and bottom samples were obtained at Hudson River channel stations between mile -18 at the ocean head-bay and mile 22 above Yonkers, since maximum stratification between the salt and fresh water occurred in this area. The water in other areas was known to be fairly well mixed, so sampling elsewhere was confined to mid-depth.

10. After completion of test 1, it was realized that a true picture of the dispersion could not be obtained using the sampling procedures developed in previous tests. The spread of contamination throughout the many channels and waterways of the New York Harbor model was so rapid, and the changes in dye concentration were so great, that a great many observations were required to definitely fix the time-concentration relation during the early part of the test. The required number of samples could not be analyzed at three wave lengths on the spectrophotometer in the available time. Therefore, the following procedure was developed during test 2 and used on all subsequent tests. Immediately prior to release of the tracer, samples were obtained at all observation points to be used during the test. These samples were analyzed at three wave lengths on the spectrophotometer in order to determine the turbidity correction ( $E'_m$ ) at each observation point. Samples were obtained every other cycle during the first 25 cycles at all locations where dye was present, and these samples were analyzed at only the 665 wave length on the spectrophotometer. By the twenty-fifth cycle, the rate of change of dye concentration had become uniform and the sampling interval was increased to every fifth cycle. The samples obtained at cycles 30 and 31, and at several of the regular intervals thereafter, were analyzed at three wave lengths so that a total of 10 of the

samples from each location were analyzed at three wave lengths during the test. The average  $E'_m$  for the 10 samples analyzed at three wave lengths was applied to samples analyzed at one wave length in order to remove the turbidity effect from all samples obtained during each test.

#### Method Used in Reduction of Data

11. The method of reducing the raw test data to the form shown in the tables and plates was as follows:

- a. The dye concentration of each sample was determined from a curve of  $E'_{665}$  versus concentration after determining  $E'_{665}$  by substituting Beckman spectrophotometer values in the equation  $E'_{665} = E_{665} - E'_m$ , where  $E_{665}$  is the sample reading at the 665 wave length and  $E'_m$  is the correction for turbidity;  $E'_m$  was computed by solving the equation,  $E'_m = E_{800} + 0.168 (E_{400} - E_{800})$ , where  $E_{400}$  and  $E_{800}$  are the respective sample readings at the 400 and 800 wave lengths.
- b. The dye concentration values determined as outlined in a were corrected for dye loss by multiplying them by the factors obtained as described in paragraph 6 and listed in table 1. The corrected values were then converted to percentages of the initial concentration by dividing by 1000 and converting to per cent.
- c. Curves of dye concentration versus time for each observation point were next prepared by plotting the values determined in b on semilog paper and drawing an average curve.
- d. Profiles of dye concentration at high-water slack for cycles 5, 10, 15, 25, 50, 75, and 100 were prepared from values taken from the curves of dye concentration versus time.

#### Test Results

12. The results of this series of tests are presented in tables 2-20 and plates 2-111. Tables 12-20 present the dye concentrations observed during tests 1-9, respectively, and include the location, time of observation (cycle), and dye concentration of each sample obtained during this series of tests. The concentrations are expressed as percentages of the initial concentration and have been corrected for dye loss as explained in paragraph 6. All data presented in tables 12-20 are also presented in



graphic form in plates 25-111 (semilog plots of dye concentration versus time). On these plots, the vertical logarithmic scale represents dye concentration in per cent of initial concentration, while the standard divisions of the horizontal scale represent tidal cycles after the contamination was released. Smooth curves have been drawn to represent average concentration versus time. As mentioned in paragraph 10, the sampling program originally planned for test 1 was inadequate at several stations, especially during the early cycles of the test. However, it was possible to complete the curves for test 1 by interpolating the curves for such stations from the results of tests 2, 3, and 4, all of which involved dye releases at location 1. The interpolated portions of the curves for test 1 are so noted on the appropriate plates. The curves for test 1 were extended to cycle 100 although the test was stopped at cycle 75. However, the deterioration rate was definitely established by cycle 75 at all observation points.

13. On many plots throughout plates 25 to 111, dye concentration values of 0.0001 per cent of the initial concentration are shown. The actual values of these samples were found to be zero which cannot be plotted on a logarithmic scale. Therefore, in order to show that a sample had actually been taken and evaluated, all zero values were plotted as 0.0001 values.

14. Profiles of high-water slack dye concentration at intervals throughout each test were prepared for the Hudson River channel and other sections of the model for which sufficient data were available. The data for these curves, which are presented in plates 11-24, are also included in tables 3-11 and were obtained from the curves just described in paragraphs 12 and 13 and shown in plates 25 to 111. Profiles of dye concentration at cycles 5, 10, 15, 25, 50, 75, and 100 for both surface and bottom depths were prepared for the Hudson River channel, which extends through Lower Bay, Upper Bay, and the Hudson River. Using the same profile interval, profiles of middepth dye concentrations were constructed for other areas since all observations in those areas were made at middepth.

15. The peak value of contamination at each sampling station and the tidal cycle during which the peak occurred were obtained from the curves included in plates 25-111. These values for all tests are given in table 2.

These data are also presented in plates 2-10 so that the shifting of the peak value with time can be noted.

Table 1  
Correction Factors for Dye Loss

<u>Tidal Cycle</u>	<u>Factor</u>	<u>Tidal Cycle</u>	<u>Factor</u>
1	1.013	51	1.363
2	1.025	52	1.369
3	1.035	53	1.376
4	1.045	54	1.382
5	1.053	55	1.389
6	1.061	56	1.395
7	1.069	57	1.402
8	1.078	58	1.409
9	1.085	59	1.415
10	1.092	60	1.422
11	1.099	61	1.429
12	1.106	62	1.437
13	1.112	63	1.443
14	1.119	64	1.450
15	1.125	65	1.456
16	1.132	66	1.463
17	1.138	67	1.470
18	1.145	68	1.477
19	1.151	69	1.484
20	1.158	70	1.490
21	1.165	71	1.496
22	1.171	72	1.500
23	1.178	73	1.509
24	1.184	74	1.516
25	1.191	75	1.523
26	1.197	76	1.529
27	1.204	77	1.536
28	1.210	78	1.542
29	1.217	79	1.549
30	1.223	80	1.555
31	1.231	81	1.562
32	1.237	82	1.568
33	1.244	83	1.575
34	1.250	84	1.581
35	1.257	85	1.588
36	1.263	86	1.594
37	1.270	87	1.601
38	1.276	88	1.607
39	1.283	89	1.614
40	1.289	90	1.620
41	1.296	91	1.627
42	1.302	92	1.633
43	1.309	93	1.640
44	1.315	94	1.646
45	1.323	95	1.653
46	1.329	96	1.659
47	1.336	97	1.666
48	1.342	98	1.672
49	1.349	99	1.679
50	1.356	100	1.685

Table 2  
Peak Contamination, Time of Occurrence and Value

River and Station	Test 1			Test 2			Test 3			Test 4			Test 5			Test 6			Test 7			Test 8			Test 9				
	Time of Occurrence	Peak Value	Time of Occurrence	Time of Occurrence	Peak Value	Time of Occurrence	Time of Occurrence	Peak Value	Time of Occurrence	Time of Occurrence	Peak Value	Time of Occurrence	Time of Occurrence	Peak Value	Time of Occurrence	Time of Occurrence	Peak Value	Time of Occurrence	Time of Occurrence	Peak Value	Time of Occurrence	Time of Occurrence	Peak Value	Time of Occurrence	Time of Occurrence	Peak Value			
Madison River																													
Mile 18	-	----	-	-	0.0049 SAB	140	0.0049 SAB	0.0049 SAB	34	0.0078 S	-	----	32	0.0023 SAB	-	----	36	0.0022 SAB	0.0022 SAB	23	0.0022 SAB	0.0022 SAB	23	0.0022 SAB	0.0022 SAB	20	0.0022 SAB		
Mile 16	-	----	-	34	0.0048 SAB	34	0.0048 SAB	0.0048 SAB	30	0.0077 S	26	0.0019 S	24	0.0024 SAB	18	0.0022 SAB	22	0.0032 SAB	0.0032 SAB	20	0.0032 SAB	0.0032 SAB	20	0.0032 SAB	0.0032 SAB	20	0.0034 SAB		
Mile 12	-	----	-	30	0.0067 SAB	30	0.0067 SAB	0.0067 SAB	30	0.0077 S	8	0.0085	6	0.0390	4	0.0270	12	0.0136	0.0136	7	0.0136	0.0136	7	0.0136	0.0136	2	0.0630 SAB		
Sta 9A	-	----	-	8	0.0248	8	0.0248	0.0248	9	0.0188	8	0.0085	6	0.0390	4	0.0270	12	0.0136	0.0136	7	0.0136	0.0136	7	0.0136	0.0136	3	0.0136 S		
Mile 8	12	0.0068 S	32	0.0043 S	5	0.0217 S	8	0.0235 S	12	0.0235 S	12	0.0140 S	5	0.0375 S	8	0.0270	12	0.0136	0.0136	10	0.0040 SAB	0.0040 SAB	3	0.0136 S	0.0136 S	3	0.0136 S		
Sta 8A	-	----	27	0.0070	6	0.0320	9	0.0198	6	0.0288	6	0.0288	7	0.0210	9	0.0107	17	0.0080	0.0080	2	0.0080	0.0080	2	0.0080	0.0080	2	0.1435		
Mile 4	6	0.0450 S	7	0.0360 S	4	0.0410 S	8	0.0385 S	6	0.0385 S	6	0.0385 S	4	0.0385 S	4	0.0385 S	12	0.0162 SAB	0.0162 SAB	2	0.0162 SAB	0.0162 SAB	2	0.0162 SAB	0.0162 SAB	2	0.1900 B		
Mile 0	4	0.0520 S	5	0.0530 S	4	0.0670	2	0.0470	2	0.0470	2	0.0470	2	0.0470	2	0.0470	6	0.0228 B	0.0228 B	2	0.0228 B	0.0228 B	2	0.0228 B	0.0228 B	2	0.1110 B		
Mile 4	3	0.1350 S	2	0.1350 S	2	0.1350 S	2	0.1350 S	2	0.1350 S	2	0.1350 S	2	0.0960 B	2	0.0960 B	21	0.0063 SAB	0.0063 SAB	4	0.0063 SAB	0.0063 SAB	4	0.0063 SAB	0.0063 SAB	4	0.0269 B		
Mile 8	3	0.1350 S	2	0.1350 SAB	2	0.1760 S	2	0.1670 S	2	0.1670 S	2	0.1670 S	2	0.0730 B	2	0.0730 B	9	0.0075 B	0.0075 B	7	0.0075 B	0.0075 B	7	0.0075 B	0.0075 B	7	0.0148 B		
Mile 12	3	0.1800 B	2	0.1750 B	2	0.2930 SAB	2	0.2930 SAB	2	0.2930 SAB	6	0.0430 B	6	0.0355 B	14	0.0054 B	20	0.0062 SAB	0.0062 SAB	12	0.0062 SAB	0.0062 SAB	12	0.0062 SAB	0.0062 SAB	12	0.0084 B		
Mile 16	4	0.0680 B	6	0.0525 B	4	0.0570 B	4	0.0530 B	12	0.0210 B	12	0.0210 B	11	0.0160 B	14	0.0045 B	24	0.0050 SAB	0.0050 SAB	16	0.0050 SAB	0.0050 SAB	16	0.0050 SAB	0.0050 SAB	16	0.0047 B		
Mile 20	7	0.0250 B	11	0.0236 B	8	0.0187 B	8	0.0146 B	14	0.0088 B	14	0.0088 B	11	0.0081 B	-	----	-	----	----	-	----	-	-	----	-	-	-	----	
Mile 23	21	0.0143 B	13	0.0137 B	18	0.0070 B	12	0.0089 B	16	0.0052 B	-	----	-	----	-	----	-	----	----	-	----	-	-	----	-	-	-	----	
East River																													
Mile 2	3	0.0680	3	0.0770	5	0.0540	3	0.0740	2	0.0900	3	0.0780	3	0.0900	10	0.0089	13	0.0130	0.0130	3	0.0130	0.0130	3	0.0130	0.0130	3	0.0285		
Mile 7	3	0.1080	3	0.0960	3	0.0920	3	0.0750	2	0.1170	3	0.0900	16	0.0056	16	0.0056	5	0.0141	0.0141	5	0.0141	0.0141	5	0.0141	0.0141	5	0.0141		
Mile 12	4	0.0180	5	0.0540	3	0.0375	3	0.0125	2	0.1170	3	0.0295	12	0.0022	12	0.0022	9	0.0038	0.0038	9	0.0038	0.0038	9	0.0038	0.0038	9	0.0038		
Mile 17	16	0.0037	18	0.0088	18	0.0032	-	----	5	0.0145	16	0.0020	-	----	-	----	27	0.0023	0.0023	27	0.0023	0.0023	27	0.0023	0.0023	27	0.0023		
Kill Van Noll																													
Mile 3	5	0.0370	3	0.0680	5	0.0490	5	0.0475	3	0.0650	3	0.0650	3	0.0900	2	0.0540	8	0.0233	0.0233	4	0.0233	0.0233	4	0.0233	0.0233	4	0.0330		
Marion River																													
Mile 3	12	0.0150	17	0.0155	5	0.0480	10	0.0120	5	0.0670	5	0.0175	5	0.0175	-	----	-	----	----	-	----	-	-	----	-	-	-	0.0027	
Arthur Kill																													
Mile 7	23	0.0590	23	0.0056	14	0.0082	20	0.0049	14	0.0055	12	0.0045	6	0.0900	6	0.0900	3	0.0990	0.0990	22	0.0046	0.0046	22	0.0046	0.0046	22	0.0046		
Mile 10	-	----	-	----	-	----	-	----	-	----	-	----	20	0.0145	20	0.0145	6	0.3300	0.3300	29	0.0044	0.0044	29	0.0044	0.0044	29	0.0044		
Mile 14	-	----	-	----	-	----	-	----	-	----	-	----	-	----	-	----	36	0.0037	0.0037	25	0.0037	0.0037	25	0.0037	0.0037	25	0.0037		
Mile 18	-	----	-	----	-	----	-	----	-	----	-	----	-	----	-	----	44	0.0039	0.0039	30	0.0039	0.0039	30	0.0039	0.0039	30	0.0039		
Pennock River																													
Mile 2	20	0.0120	21	0.0120	20	0.0090	20	0.0088	18	0.0114	16	0.0160	9	0.2270	9	0.2270	18	0.1160	0.1160	20	0.0061	0.0061	20	0.0061	0.0061	20	0.0061		
Mile 6	-	----	-	----	-	----	-	----	-	----	-	----	-	----	-	----	33	0.0520	0.0520	-	----	----	-	----	----	-	----		
Mile 10	-	----	-	----	-	----	-	----	-	----	-	----	-	----	-	----	46	0.0380	0.0380	-	----	----	-	----	----	-	----		
Swamp Bay																													
Mile 2	11	0.0225	9	0.0260	10	0.0185	9	0.0197	6	0.0215	8	0.0330	2	0.4400	2	0.4400	7	0.6900	0.6900	9	0.0131	0.0131	9	0.0131	0.0131	9	0.0131		
Buchanan River																													
Mile 2	19	0.0110	18	0.0140	21	0.0120	15	0.0115	20	0.0143	10	0.0170	3	0.3500	3	0.3500	10	0.1480	0.1480	15	0.0080	0.0080	15	0.0080	0.0080	15	0.0080		
Mile 6	-	----	-	----	-	----	-	----	-	----	-	----	-	----	-	----	24	0.0890	0.0890	38	0.0043	0.0043	38	0.0043	0.0043	38	0.0043		
Mile 10	-	----	-	----	-	----	-	----	-	----	-	----	-	----	-	----	38	0.0600	0.0600	24	0.0470	0.0470	24	0.0470	0.0470	24	0.0470		
Mile 14	-	----	-	----	-	----	-	----	-	----	-	----	-	----	-	----	46	0.0330	0.0330	50	0.0247	0.0247	50	0.0247	0.0247	50	0.0247		
Parsons River Channel																													
Mile 26	-	----	-	----	-	----	-	----	-	----	-	----	-	----	-	----	22	0.0016	0.0016	26	0.0100	0.0100	21	0.0057	0.0057	21	0.0057		
Mile 30	-	----	-	----	-	----	-	----	-	----	-	----	-	----	-	----	18	0.0086	0.0086	26	0.0096	0.0096	13	0.0205	0.0205	13	0.0205		
Mile 35	-	----	-	----	-	----	-	----	-	----	-	----	-	----	-	----	8	0.0140	0.0140	28	0.0082	0.0082	4	0.0082	0.0082	4	0.0082		
Mile 38	-	----	-	----	-	----	-	----	-	----	-	----	-	----	-	----	-	----	----	-	----	-	-	----	-	-	-	0.0086	
Mile 41	-	----	-	----	-	----	-	----	-	----	-	----	-	----	-	----	32	0.0051	0.0051	5	0.0051	0.0051	5	0.0051	0.0051	5	0.0051		
Chapel Hill Channel																													
Mile 46	-	----	-	----	-	----	-	----	-	----	-	----	-	----	-	----	19	0.0077	0.0077	5	0.0077	0.0077	5	0.0077	0.0077	5	0.0077		
Jennison Bay																													
Station J-0	-	----	-	----	-	----	-	----	-	----	-	----	-	----	-	----	-	----	----	-	----	-	-	----	-	-	-	0.0036	
Station J-1	-	----	-	----	-	----	-	----	-	----	-	----	-	----	-	----	-	----	38	0.0058	0.0058	3	0.0058	0.0058	3	0.0058	0.0058	3	0.0058
Station J-2	-	----	-	----	-	----	-	----	-	----	-	----	-	----	-	----	-	----	37	0.0034	0.0034	4	0.0034	0.0034	4	0.0034	0.0034	4	0.0034

Note: Time of occurrence of the peak concentration refers to tidal cycles after release. Peak values are percentages of the initial concentration. The suffix "S" denotes a surface observation, while "B" denotes a bottom observation. Dye concentrations not followed by either "S" or "B" were observed at middepth.

Table 3

Dye Concentrations at High-Water Slack, in Per Cent of Initial Concentration, Taken from Station Curves, Test 1

River and Station	Cycle 5		Cycle 10		Cycle 15		Cycle 25		Cycle 50		Cycle 75		Cycle 100	
	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom
Hudson River														
Mile -8	0.0000	0.0000	0.0069	0.0023	0.0065	0.0027	0.0049	0.0026	0.0022	0.0015	0.0012	0.0007	0.0005	0.0003
Mile -4	0.0448	0.0239	0.0305	0.0165	0.0200	0.0112	0.0094	0.0058	0.0024	0.0017	0.0011	0.0007	0.0006	0.0003
Mile 0	0.0505	0.0345	0.0320	0.0280	0.0240	0.0190	0.0125	0.0102	0.0037	0.0029	0.0018	0.0011	0.0009	0.0005
Mile 4	0.0660	0.0630	0.0380	0.0360	0.0250	0.0250	0.0130	0.0130	0.0039	0.0039	0.0018	0.0016	0.0009	0.0007
Mile 8	0.0710	0.0700	0.0420	0.0399	0.0310	0.0275	0.0184	0.0153	0.0052	0.0041	0.0021	0.0018	0.0010	0.0009
Mile 12	0.0950	0.0950	0.0443	0.0443	0.0300	0.0280	0.0165	0.0143	0.0054	0.0043	0.0022	0.0019	0.0011	0.0009
Mile 16	0.0450	0.0660	0.0390	0.0425	0.0275	0.0278	0.0158	0.0158	0.0060	0.0061	0.0027	0.0030	0.0013	0.0015
Mile 20	0.0145	0.0245	0.0168	0.0235	0.0153	0.0205	0.0115	0.0145	0.0045	0.0057	0.0017	0.0022	0.0006	0.0008
Mile 23	0.0000	0.0000	0.0002	0.0002	0.0082	0.0088	0.0096	0.0137	0.0030	0.0054	0.0009	0.0020	0.0003	0.0008
	Middepth		Middepth		Middepth		Middepth		Middepth		Middepth		Middepth	
East River														
Mile 2	0.0530		0.0328		0.0230		0.0126		0.0037		0.0017		0.0008	
Mile 7	0.0690		0.0365		0.0250		0.0135		0.0039		0.0016		0.0007	
Mile 12	0.0179		0.0151		0.0128		0.0090		0.0038		0.0016		0.0007	
Mile 17	0.0002		0.0032		0.0037		0.0027		0.0011		0.0005		0.0002	

Table 4

Dye Concentrations at High-Water Slack, in Per Cent of Initial Concentration, Taken from Station Curves, Test 2

River and Station	Cycle 5		Cycle 10		Cycle 15		Cycle 25		Cycle 50		Cycle 75		Cycle 100	
	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom
Hudson River														
Mile -8	0.0010	0.0002	0.0024	0.0027	0.0032	0.0036	0.0039	0.0022	0.0037	0.0011	0.0027	0.0008	0.0017	0.0006
Mile -4	0.0325	0.0080	0.0305	0.0150	0.0220	0.0090	0.0107	0.0051	0.0038	0.0020	0.0021	0.0011	0.0012	0.0006
Mile 0	0.0530	0.0230	0.0430	0.0250	0.0290	0.0160	0.0135	0.0078	0.0031	0.0022	0.0015	0.0009	0.0013	0.0006
Mile 4	0.0900	0.0550	0.0444	0.0350	0.0290	0.0240	0.0160	0.0135	0.0056	0.0043	0.0023	0.0016	0.0013	0.0008
Mile 8	0.0980	0.0800	0.0520	0.0465	0.0350	0.0310	0.0170	0.0150	0.0051	0.0055	0.0023	0.0036	0.0019	0.0030
Mile 12	0.0900	0.0900	0.0530	0.0530	0.0350	0.0350	0.0195	0.0195	0.0064	0.0062	0.0023	0.0025	0.0007	0.0014
Mile 16	0.0250	0.0520	0.0305	0.0410	0.0225	0.0290	0.0142	0.0170	0.0059	0.0054	0.0027	0.0025	0.0013	0.0018
Mile 20	0.0005	0.0015	0.0100	0.0270	0.0115	0.0220	0.0108	0.0130	0.0033	0.0053	0.0015	0.0027	0.0004	0.0014
Mile 23	-----	-----	0.0048	0.0105	0.0095	0.0133	0.0080	0.0105	0.0039	0.0042	0.0018	0.0022	0.0003	0.0004
	Middepth		Middepth		Middepth		Middepth		Middepth		Middepth		Middepth	
East River														
Mile 2	0.0580		0.0385		0.0285		0.0168		0.0054		0.0020		0.0010	
Mile 7	0.0700		0.0445		0.0310		0.0175		0.0062		0.0028		0.0010	
Mile 12	0.0470		0.0340		0.0260		0.0135		0.0028		0.0011		0.0008	
Mile 17	0.0000		0.0035		0.0075		0.0042		0.0015		0.0010		0.0008	
Hudson River, average surface and bottom														
Mile -4	0.0203		0.0228		0.0155		0.0079		0.0029		0.0016		0.0009	
Kill Van Kull														
Mile 3	0.0610		0.0385		0.0265		0.0150		0.0053		0.0027		0.0015	
Newark Bay														
Mile 2	0.0230		0.0260		0.0230		0.0150		0.0058		0.0028		0.0016	
Hackensack River														
Mile 2	0.0040		0.0110		0.0138		0.0123		0.0054		0.0024		0.0012	

Table 5  
Dye Concentrations at High-Water Slack, in Per Cent of Initial Concentration, Taken from Station Curves, Test 3

River and Station	Cycle 5		Cycle 10		Cycle 15		Cycle 25		Cycle 50		Cycle 75		Cycle 100	
	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom
Hudson River														
Mile -18	----	----	----	----	----	----	0.0032	0.0032	0.0046	0.0046	0.0031	0.0031	0.0017	0.0017
Mile -16	----	----	----	----	----	----	0.0044	0.0044	0.0043	0.0043	0.0029	0.0029	0.0018	0.0018
Mile -12	----	----	----	----	0.0040	0.0040	0.0064	0.0064	0.0052	0.0052	0.0035	0.0035	0.0023	0.0023
Mile -8	0.0215	0.0020	0.0125	0.0049	0.0090	0.0061	0.0071	0.0068	0.0043	0.0054	0.0026	0.0038	0.0015	0.0025
Mile -4	0.0400	0.0110	0.0273	0.0130	0.0189	0.0122	0.0109	0.0090	0.0040	0.0058	0.0022	0.0042	0.0015	0.0032
Mile 0	0.0600	0.0178	0.0320	0.0180	0.0216	0.0134	0.0111	0.0090	0.0033	0.0051	0.0019	0.0034	0.0013	0.0024
Mile 4	0.0783	0.0420	0.0360	0.0273	0.0235	0.0185	0.0118	0.0084	0.0034	0.0027	0.0018	0.0016	0.0013	0.0012
Mile 8	0.0720	0.0600	0.0370	0.0318	0.0210	0.0188	0.0095	0.0085	0.0029	0.0024	0.0017	0.0014	0.0011	0.0009
Mile 12	0.0650	0.0790	0.0335	0.0390	0.0197	0.0235	0.0093	0.0109	0.0017	0.0020	0.0005	0.0005	0.0001	0.0001
Mile 16	0.0380	0.0500	0.0225	0.0285	0.0148	0.0176	0.0065	0.0077	0.0011	0.0014	0.0002	0.0003	----	----
Mile 20	0.0035	0.0140	0.0101	0.0175	0.0073	0.0123	0.0035	0.0053	0.0006	0.0009	0.0001	0.0002	----	----
Mile 23	0.0010	0.0023	0.0030	0.0057	0.0047	0.0069	0.0024	0.0037	0.0002	0.0002	----	----	----	----
	Middepth		Middepth		Middepth		Middepth		Middepth		Middepth		Middepth	
East River														
Mile 2	0.0540		0.0290		0.0190		0.0093		0.0024		0.0009		0.0004	
Mile 7	0.0630		0.0330		0.0210		0.0099		0.0018		0.0005		0.0002	
Mile 12	0.0333		0.0192		0.0122		0.0051		0.0013		0.0004		0.0002	
Mile 17	----		0.0019		0.0029		0.0084		----		----		----	
Hudson River, average surface and bottom														
Mile -4	0.0255		0.0201		0.0156		0.0100		0.0049		0.0032		0.0024	
Kill Van Kull														
Mile 3	0.0500		0.0315		0.0198		0.0105		0.0035		0.0021		0.0017	
Newark Bay														
Mile 2	0.0100		0.0185		0.0170		0.0110		0.0035		0.0022		0.0017	
Hackensack River														
Mile 2	0.0012		0.0080		0.0110		0.0104		0.0036		0.0021		0.0012	

Table 6

Dye Concentrations at High-Water Slack, in Per Cent of Initial Concentration, Taken from Station Curves, Test 4

River and Station	Cycle 5		Cycle 10		Cycle 15		Cycle 25		Cycle 50		Cycle 75		Cycle 100	
	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom
Hudson River														
Mile -16	0.0030	0.0014	0.0046	0.0033	0.0060	0.0039	0.0074	0.0044	0.0070	0.0045	0.0042	0.0033	0.0015	0.0021
Mile -12	0.0185	0.0037	0.0048	0.0038	0.0063	0.0050	0.0075	0.0063	0.0058	0.0060	0.0032	0.0037	0.0016	0.0020
Mile -8	0.0330	0.0115	0.0225	0.0055	0.0130	0.0067	0.0067	0.0070	0.0047	0.0053	0.0038	0.0034	0.0030	0.0020
Mile -4	0.0600	0.0290	0.0318	0.0155	0.0170	0.0103	0.0066	0.0074	0.0043	0.0051	0.0028	0.0035	0.0020	0.0024
Mile 0	0.0740	0.0490	0.0335	0.0185	0.0165	0.0123	0.0064	0.0084	0.0032	0.0051	0.0022	0.0034	0.0016	0.0023
Mile 4	0.0750	0.0620	0.0345	0.0240	0.0175	0.0132	0.0084	0.0064	0.0031	0.0028	0.0017	0.0017	0.0010	0.0011
Mile 8	0.0750	0.0750	0.0335	0.0280	0.0185	0.0162	0.0070	0.0085	0.0026	0.0034	0.0015	0.0019	0.0011	0.0012
Mile 12	0.0295	0.0480	0.0365	0.0365	0.0200	0.0200	0.0075	0.0075	0.0027	0.0027	0.0020	0.0020	0.0018	0.0018
Mile 16	0.0025	0.0130	0.0195	0.0235	0.0125	0.0150	0.0057	0.0070	0.0021	0.0028	0.0014	0.0021	0.0012	0.0019
Mile 20	0.0015	0.0054	0.0068	0.0145	0.0061	0.0115	0.0027	0.0050	0.0007	0.0015	0.0002	0.0008	0.0000	0.0004
Mile 23			0.0049	0.0086	0.0035	0.0077	0.0005	0.0027	0.0000	0.0001	----	----	----	----
			Middepth	Middepth	Middepth	Middepth	Middepth	Middepth	Middepth	Middepth	Middepth	Middepth	Middepth	Middepth
East River														
Mile 2	0.0600		0.0300		0.0245		0.0075		0.0035		0.0024		0.0019	
Mile 7	0.0550		0.0255		0.0145		0.0070		0.0026		0.0018		0.0015	
Mile 12	0.0110		0.0076		0.0056		0.0036		0.0016		0.0013		0.0012	
Harlem River														
Mile 3	0.0105		0.0118		0.0096		0.0040		0.0011		0.0008		0.0007	
Hudson River, average surface and bottom														
Mile -4	0.0223		0.0237		0.0137		0.0070		0.0047		0.0032		0.0022	
Kill Van Kull														
Mile 3	0.0470		0.0290		0.0163		0.0075		0.0030		0.0019		0.0017	
Newark Bay														
Mile 2	0.0163		0.0193		0.0158		0.0067		0.0028		0.0018		0.0014	
Hackensack River														
Mile 2	0.0016		0.0090		0.0106		0.0082		0.0044		0.0030		0.0024	



Table 7  
Dye Concentrations at High-Water Slack, in Per Cent of Initial Concentration, Taken from Station Curves, Test 5

River and Station	Cycle 5		Cycle 10		Cycle 15		Cycle 25		Cycle 50		Cycle 75		Cycle 100	
	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom
Hudson River														
Mile -16	0.0005	0.0005	0.0012	0.0012	0.0016	0.0016	0.0020	0.0020	0.0022	0.0022	0.0020	0.0020	0.0016	0.0016
Mile -12	0.0006	0.0006	0.0095	0.0013	0.0011	0.0016	0.0013	0.0019	0.0014	0.0005	0.0015	0.0015	0.0016	0.0016
Mile -8	0.0020	0.0004	0.0128	0.0052	0.0135	0.0050	0.0064	0.0026	0.0022	0.0007	0.0016	0.0003	0.0014	0.0001
Mile -4	0.0350	0.0215	0.0260	0.0170	0.0168	0.0105	0.0090	0.0058	0.0036	0.0026	0.0205	0.0014	0.0014	0.0008
Mile 0	0.0600	0.0370	0.0335	0.0255	0.0205	0.0155	0.0071	0.0061	0.0028	0.0021	0.0016	0.0013	0.0011	0.0009
Mile 4	0.0520	0.0630	0.0310	0.0360	0.0190	0.0230	0.0100	0.0095	0.0037	0.0045	0.0021	0.0029	0.0012	0.0020
Mile 8	0.0350	0.0575	0.0320	0.0350	0.0220	0.0220	0.0094	0.0094	0.0021	0.0033	0.0010	0.0018	0.0006	0.0011
Mile 12	0.0310	0.0400	0.0315	0.0360	0.0210	0.0245	0.0105	0.0113	0.0025	0.0030	0.0011	0.0016	0.0005	0.0009
Mile 16	0.0135	0.0135	0.0180	0.0205	0.0165	0.0020	0.0084	0.0103	0.0021	0.0023	0.0012	0.0013	0.0011	0.0011
Mile 20	0.0004	0.0022	0.0042	0.0076	0.0050	0.0088	0.0038	0.0065	0.0012	0.0028	0.0044	0.0012	0.0002	0.0005
Mile 23	0.0000	0.0000	0.0027	0.0044	0.0050	0.0053	0.0026	0.0032	0.0008	0.0011	0.0002	0.0004	0.0002	0.0002
	Middepth		Middepth		Middepth		Middepth		Middepth		Middepth		Middepth	
Lower Bay	0.0225		0.0138		0.0088		0.0044		0.0020		0.0015		0.0012	
Station -8A	0.0185		0.0192		0.0137		0.0060		0.0021		0.0011		0.0007	
Station -9A														
East River														
Mile 2	0.0670		0.0040		0.0235		0.0082		0.0024		0.0015		0.0012	
Mile 7	0.0076		0.0405		0.0235		0.0092		0.0024		0.0016		0.0013	
Mile 12	0.0050		0.0170		0.0100		0.0005		0.0022		0.0015		0.0012	
Mile 17	0.0145		0.0095		0.0050		0.0002		0.0022		0.0014		0.0012	
Barlen River														
Mile 3	0.0660		0.0123		0.0072		0.0043		0.0022		0.0018		0.0016	
Hudson River, average surface and bottom														
Mile -4	0.0283		0.0215		0.0137		0.0074		0.0031		0.0020		0.0013	
Kill Van Kull														
Mile 3	0.0600		0.0323		0.0205		0.0097		0.0033		0.0021		0.0016	
Newark Bay														
Mile 2	0.0210		0.0200		0.0160		0.0094		0.0037		0.0021		0.0013	
Backensack River														
Mile 2	0.0038		0.0105		0.0138		0.0112		0.0041		0.0018		0.0012	

Table 8

Dye Concentrations at High-Water Slack, in Per Cent of Initial Concentration, Taken from Station Curves, Test 6

River and Station	Cycle 5		Cycle 10		Cycle 15		Cycle 25		Cycle 50		Cycle 75		Cycle 100	
	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom
<b>Badson River</b>														
Mile -16	----	----	0.0003	0.0009	0.0016	0.0008	0.0022	0.0022	0.0020	0.0021	0.0015	0.0016	0.0009	0.0012
Mile -12	0.0006	0.0016	0.0016	0.0009	0.0023	0.0018	0.0021	0.0019	0.0017	0.0016	0.0015	0.0015	0.0014	0.0014
Mile -8	0.0375	0.0151	0.0081	0.0068	0.0046	0.0042	0.0028	0.0026	0.0018	0.0017	0.0015	0.0015	0.0014	0.0015
Mile -4	0.0540	0.0350	0.0310	0.0210	0.0180	0.0128	0.0077	0.0055	0.0024	0.0022	0.0016	0.0017	0.0014	0.0015
Mile 0	0.0650	0.0580	0.0285	0.0305	0.0150	0.0170	0.0056	0.0062	0.0019	0.0021	0.0015	0.0017	0.0014	0.0016
Mile 4	0.0710	0.0660	0.0360	0.0305	0.0200	0.0165	0.0065	0.0060	0.0023	0.0027	0.0014	0.0019	0.0009	0.0015
Mile 8	0.0600	0.0620	0.0300	0.0340	0.0180	0.0200	0.0069	0.0081	0.0024	0.0029	0.0017	0.0020	0.0014	0.0017
Mile 12	0.0290	0.0350	0.0270	0.0310	0.0180	0.0210	0.0085	0.0098	0.0026	0.0031	0.0016	0.0019	0.0011	0.0014
Mile 16	----	----	0.0107	0.0158	0.0110	0.0148	0.0048	0.0075	0.0007	0.0011	0.0002	0.0003	----	----
Mile 20	----	----	----	0.0068	0.0044	0.0082	0.0030	0.0057	0.0005	0.0009	0.0001	0.0003	----	----
<b>Middepth</b>														
<b>East River</b>														
Mile 2	0.0600	0.0315	0.0175	0.0074	0.0175	0.0051	0.0078	0.0034	0.0024	0.0021	0.0016	0.0013	0.0013	0.0013
Mile 7	0.0610	0.0295	0.0170	0.0086	0.0170	0.0044	0.0082	0.0018	0.0029	0.0010	0.0015	0.0010	0.0010	0.0010
Mile 12	0.0190	0.0086	0.0044	0.0019	0.0019	0.0013	0.0013	0.0013	0.0011	0.0009	0.0009	0.0009	0.0009	0.0009
Mile 17	0.0002	0.0013	0.0013	0.0013	0.0019	0.0013	0.0013	0.0013	0.0005	0.0005	0.0002	0.0002	----	----
<b>Harlem River</b>														
Mile 3	0.0175	0.0074	0.0074	0.0074	0.0051	0.0051	0.0034	0.0034	0.0021	0.0021	0.0016	0.0016	0.0013	0.0013
<b>Badson River, average surface and bottom</b>														
Mile -4	0.0445	0.0260	0.0154	0.0154	0.0154	0.0154	0.0066	0.0066	0.0023	0.0023	0.0155	0.0155	0.0014	0.0014
Kill Van Kull	0.0650	0.0330	0.0195	0.0195	0.0195	0.0195	0.0090	0.0090	0.0034	0.0034	0.0019	0.0019	0.0012	0.0012
Newark Bay	0.0270	0.0320	0.0190	0.0190	0.0190	0.0190	0.0090	0.0090	0.0020	0.0020	0.0013	0.0013	0.0012	0.0012
Mile 2	0.0270	0.0320	0.0190	0.0190	0.0190	0.0190	0.0090	0.0090	0.0020	0.0020	0.0013	0.0013	0.0012	0.0012
<b>Backensack River</b>														
Mile -4	0.0050	0.0170	0.0160	0.0160	0.0160	0.0160	0.0105	0.0105	0.0019	0.0019	0.0010	0.0010	0.0009	0.0009

Table 9

Dye Concentrations at High-Water Slack, in Per Cent of Initial Concentration, Taken from Station Curves, Test 7

River and Station	Cycle 5		Cycle 10		Cycle 15		Cycle 25		Cycle 50		Cycle 75		Cycle 100	
	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom
<b>Hudson River</b>														
Mile -18	----	----	0.0015	0.0015	0.0019	0.0019	0.0021	0.0021	0.0020	0.0020	0.0018	0.0018	0.0016	0.0016
Mile -16	----	----	0.0018	0.0018	0.0027	0.0027	0.0031	0.0031	0.0031	0.0031	0.0027	0.0027	0.0022	0.0022
Mile -12	0.0020	0.0010	0.0026	0.0016	0.0027	0.0019	0.0026	0.0021	0.0023	0.0023	0.0021	0.0021	0.0020	0.0020
Mile -8	0.0050	0.0014	0.0100	0.0024	0.0074	0.0027	0.0040	0.0024	0.0021	0.0021	0.0020	0.0020	0.0020	0.0020
Mile -4	0.0400	0.0830	0.0205	0.0275	0.0144	0.0115	0.0080	0.0059	0.0031	0.0029	0.0019	0.0019	0.0019	0.0019
Mile 0	0.0140	0.0220	0.0108	0.0162	0.0063	0.0101	0.0043	0.0055	0.0027	0.0033	0.0020	0.0030	0.0016	0.0028
Mile 4	0.0049	0.0063	0.0074	0.0081	0.0053	0.0057	0.0034	0.0034	0.0025	0.0025	0.0022	0.0022	0.0020	0.0020
Mile 8	0.0003	0.0064	0.0053	0.0074	0.0054	0.0054	0.0035	0.0035	0.0020	0.0020	0.0014	0.0014	0.0012	0.0012
Mile 12	-----	0.0020	0.0039	0.0048	0.0048	0.0053	0.0033	0.0033	0.0016	0.0016	0.0011	0.0011	0.0010	0.0010
Mile 16	----	----	0.0005	0.0033	0.0013	0.0045	0.0020	0.0034	0.0017	0.0017	0.0014	0.0014	0.0013	0.0013
<b>Middepth</b>														
<b>East River</b>														
Mile 2	0.0078		0.0088		0.0072		0.0033		0.0016		0.0012		0.0011	
Mile 7	0.0066		0.0079		0.0062		0.0025		0.0013		0.0011		0.0009	
Mile 12	0.0004		0.0022		0.0020		0.0014		0.0009		0.0007		0.0006	
<b>Kill Van Kull</b>														
Mile 3	0.0400		0.0225		0.0155		0.0077		0.0029		0.0022		0.0019	
<b>Arthur Kill</b>														
Mile 7	0.0890		0.0720		0.0534		0.0290		0.0091		0.0042		0.0021	
Mile 10	0.0040		0.0089		0.0128		0.0125		0.0050		0.0029		0.0023	
Mile 14	----		0.0026		0.0031		0.0036		0.0035		0.0018		0.0007	
Mile 18	----		-----		0.0024		0.0032		0.0037		0.0018		0.0006	
<b>Passaic River</b>														
Mile 2	0.1850		0.2200		0.1630		0.1040		0.0380		0.0160		0.0075	
Mile 6	0.0100		0.0440		0.0670		0.0845		0.0490		0.0250		0.0140	
Mile 10	----		-----		0.0060		0.0240		0.0370		0.0240		0.0165	
<b>Newark Bay</b>														
Mile 2	0.4430		0.1460		0.0900		0.0470		0.0168		0.0049		0.0028	
<b>Hackensack River</b>														
Mile 2	0.3330		0.2150		0.1600		0.0950		0.0290		0.0120		0.0060	
Mile 6	0.0850		0.1600		0.1550		0.0994		0.0420		0.0225		0.0125	
Mile 10	0.0035		0.0260		0.0480		0.0600		0.0375		0.0245		0.0175	
Mile 14	----		0.0005		0.0080		0.0195		0.0310		0.0199		0.0132	
<b>Raritan River Channel</b>														
Mile 21	----		-----		0.0023		0.0035		0.0020		0.0014		0.0012	
Mile 30	0.0002		0.0064		0.0084		0.0064		0.0026		0.0019		0.0017	
Mile 35	0.0115		0.0143		0.0096		0.0050		0.0024		0.0018		0.0016	
Mile 41	0.0010		0.0068		0.0066		0.0042		0.0020		0.0015		0.0012	

Table 10

Dye Concentrations at High-Water Slack, in Per Cent of Initial Concentration, Taken from Station Curves, Test 8

River and Station	Cycle 5		Cycle 10		Cycle 15		Cycle 25		Cycle 50		Cycle 75		Cycle 100	
	Surface & Bottom	Middepth	Surface & Bottom	Middepth	Surface & Bottom	Middepth	Surface & Bottom	Middepth	Surface & Bottom	Middepth	Surface & Bottom	Middepth	Surface & Bottom	Middepth
Hudson River														
Mile -18	----		0.0002	0.0011	0.0020	0.0019	0.0020	0.0019	0.0019	0.0010	0.0010	0.0006	0.0006	0.0006
Mile -16	----		0.0023	0.0030	0.0031	0.0021	0.0031	0.0021	0.0021	0.0012	0.0012	0.0006	0.0006	0.0006
Mile -12	----		0.0022	0.0025	0.0024	0.0013	0.0024	0.0013	0.0013	0.0009	0.0009	0.0006	0.0006	0.0006
Mile -8	0.0034		0.0040	0.0040	0.0037	0.0021	0.0037	0.0021	0.0021	0.0012	0.0012	0.0007	0.0007	0.0007
Mile -4	0.0086		0.0150	0.0157	0.0097	0.0033	0.0097	0.0033	0.0033	0.0015	0.0015	0.0007	0.0007	0.0007
Mile 0	0.0092		0.0130	0.0136	0.0095	0.0025	0.0095	0.0025	0.0025	0.0009	0.0009	0.0005	0.0005	0.0005
Mile 4	0.0008		0.0052	0.0076	0.0075	0.0013	0.0075	0.0013	0.0013	0.0007	0.0007	0.0005	0.0005	0.0005
Mile 8	----		0.0031	0.0055	0.0060	0.0010	0.0060	0.0010	0.0010	0.0006	0.0006	0.0004	0.0004	0.0004
Mile 12	----		0.0019	0.0051	0.0048	0.0013	0.0048	0.0013	0.0013	0.0006	0.0006	0.0004	0.0004	0.0004
Mile 16	----		----	0.0011	0.0056	0.0011	0.0056	0.0011	0.0011	0.0003	0.0003	----	----	----
East River														
Mile 2	0.0010		0.0096	0.0125	0.0043	0.0014	0.0043	0.0014	0.0014	0.0008	0.0008	0.0005	0.0005	0.0005
Mile 7	0.0002		0.0041	0.0056	0.0032	0.0009	0.0032	0.0009	0.0009	0.0006	0.0006	0.0004	0.0004	0.0004
Mile 12	----		0.0002	0.0007	0.0019	0.0005	0.0019	0.0005	0.0005	0.0003	0.0003	0.0002	0.0002	0.0002
Kill Van Kull														
Mile 3	0.0145		0.0215	0.0175	0.0116	0.0045	0.0116	0.0045	0.0045	0.0021	0.0021	0.0014	0.0014	0.0014
Arthur Kill														
Mile 7	0.7100		0.4400	0.3100	0.1650	0.0460	0.1650	0.0460	0.0460	0.0180	0.0180	0.0103	0.0103	0.0103
Mile 10	0.3350		0.2650	0.1970	0.1180	0.0315	0.1180	0.0315	0.0315	0.0116	0.0116	0.0069	0.0069	0.0069
Mile 14	0.0580		0.0950	0.0685	0.0375	0.0137	0.0375	0.0137	0.0137	0.0073	0.0073	0.0043	0.0043	0.0043
Mile 18	0.0017		0.0049	0.0082	0.0127	0.0083	0.0127	0.0083	0.0083	0.0056	0.0056	0.0043	0.0043	0.0043
Passaic River														
Mile 2	0.0260		0.0920	0.1120	0.0890	0.0385	0.0890	0.0385	0.0385	0.0193	0.0193	0.0102	0.0102	0.0102
Mile 6	----		0.0090	0.0215	0.0470	0.0405	0.0470	0.0405	0.0405	0.0285	0.0285	0.0210	0.0210	0.0210
Mile 10	----		----	0.0000	0.0032	0.0297	0.0032	0.0297	0.0297	0.0235	0.0235	0.0195	0.0195	0.0195
Newark Bay														
Mile 2	0.5800		0.3000	0.1180	0.0600	0.0207	0.0600	0.0207	0.0207	0.0087	0.0087	0.0039	0.0039	0.0039
Hackensack River														
Mile 2	0.0760		0.1480	0.1360	0.0870	0.0350	0.0870	0.0350	0.0350	0.0176	0.0176	0.0093	0.0093	0.0093
Mile 6	0.0070		0.0400	0.0625	0.0850	0.0425	0.0850	0.0425	0.0425	0.0255	0.0255	0.0173	0.0173	0.0173
Mile 10	----		0.0015	0.0150	0.0375	0.0425	0.0375	0.0425	0.0425	0.0280	0.0280	0.0160	0.0160	0.0160
Mile 14	----		----	0.0018	0.0113	0.0245	0.0113	0.0245	0.0245	0.0205	0.0205	0.0121	0.0121	0.0121
Paritan River Channel														
Mile 21	----		0.0002	0.0050	0.0100	0.0065	0.0100	0.0065	0.0065	0.0043	0.0043	0.0025	0.0025	0.0025
Mile 30	----		0.0002	0.0038	0.0095	0.0048	0.0095	0.0048	0.0048	0.0023	0.0023	0.0011	0.0011	0.0011
Mile 35	----		0.0020	0.0077	0.0056	0.0023	0.0056	0.0023	0.0023	0.0011	0.0011	0.0006	0.0006	0.0006
Mile 41	----		0.0020	0.0047	0.0051	0.0043	0.0051	0.0043	0.0043	0.0017	0.0017	0.0006	0.0006	0.0006

Table 11

Dye Concentrations at High-Water Slack, in Per Cent of Initial Concentration, Taken from Station Curves, Test 2

River and Station	Cycle 5		Cycle 10		Cycle 15		Cycle 25		Cycle 50		Cycle 75		Cycle 100	
	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom
Madison River														
Mile -18	----	----	0.0016	0.0016	0.0020	0.0020	0.0022	0.0022	0.0018	0.0018	0.0013	0.0013	0.0010	0.0010
Mile -16	----	----	0.0016	0.0016	0.0020	0.0020	0.0022	0.0022	0.0018	0.0018	0.0013	0.0013	0.0010	0.0010
Mile -12	0.0033	0.0033	0.0028	0.0028	0.0021	0.0021	0.0022	0.0022	0.0018	0.0018	0.0016	0.0016	0.0014	0.0014
Mile -8	0.0163	0.0078	0.0045	0.0030	0.0028	0.0026	0.0022	0.0022	0.0018	0.0018	0.0016	0.0016	0.0015	0.0015
Mile -4	0.0420	0.0330	0.0142	0.0100	0.0075	0.0051	0.0038	0.0029	0.0024	0.0019	0.0017	0.0015	0.0014	0.0014
Mile 0	0.0285	0.0380	0.0149	0.0149	0.0085	0.0085	0.0048	0.0048	0.0026	0.0026	0.0018	0.0018	0.0015	0.0015
Mile 4	0.0125	0.0255	0.0120	0.0140	0.0085	0.0085	0.0044	0.0044	0.0022	0.0022	0.0016	0.0016	0.0013	0.0013
Mile 8	0.0067	0.0140	0.0108	0.0138	0.0079	0.0089	0.0045	0.0045	0.0021	0.0021	0.0014	0.0014	0.0010	0.0010
Mile 12	0.0035	0.0055	0.0067	0.0084	0.0070	0.0080	0.0042	0.0043	0.0015	0.0015	0.0008	0.0008	0.0006	0.0006
Mile 16	----	----	0.0010	0.0010	0.0029	0.0046	0.0027	0.0035	0.0011	0.0011	0.0005	0.0005	0.0003	0.0003
	Middepth		Middepth		Middepth		Middepth		Middepth		Middepth		Middepth	
East River														
Mile 2	0.0240		0.0125		0.0079		0.0045		0.0022		0.0015		0.0012	
Mile 7	0.0141		0.0107		0.0072		0.0042		0.0019		0.0012		0.0009	
Mile 12	0.0034		0.0038		0.0035		0.0026		0.0014		0.0009		0.0006	
Mile 17	----		----		----		0.0023		0.0013		0.0007		0.0004	
Kill Van Kull														
Mile 3	0.0315		0.0140		0.0084		0.0044		0.0018		0.0011		0.0009	
Arthur Kill														
Mile 7	0.0004		0.0039		0.0040		0.0045		0.0026		0.0016		0.0012	
Mile 10	----		0.0003		0.0026		0.0043		0.0027		0.0016		0.0011	
Mile 14	----		0.0001		0.0021		0.0037		0.0026		0.0016		0.0010	
Mile 18	----		----		0.0012		0.0038		0.0032		0.0017		0.0010	
Passaic River														
Mile 2	0.0003		0.0046		0.0058		0.0059		0.0036		0.0022		0.0014	
Hewark Bay														
Mile 2	0.0117		0.0131		0.0105		0.0061		0.0019		0.0010		0.0007	
Hackensack River														
Mile 2	0.0006		0.0079		0.0090		0.0068		0.0024		0.0011		0.0006	
Mile 6	----		----		----		0.0023		0.0034		0.0018		0.0010	
Baritan River Channel														
Mile 21	----		0.0009		0.0050		0.0055		0.0037		0.0026		0.0020	
Mile 30	----		0.0120		0.0185		0.0087		0.0033		0.0022		0.0017	
Mile 35	0.0400		0.0130		0.0078		0.0040		0.0022		0.0016		0.0012	
Mile 38	0.0280		0.0150		0.0072		0.0038		0.0020		0.0014		0.0010	
Mile 41	0.0237		0.0120		0.0070		0.0035		0.0017		0.0012		0.0009	

(Continued)

Table 11 (Concluded)

River and Station	Cycle 5 Middepth	Cycle 10 Middepth	Cycle 15 Middepth	Cycle 25 Middepth	Cycle 50 Middepth	Cycle 75 Middepth	Cycle 100 Middepth
Jamaica Bay							
Station J-0	0.0019	0.0035	0.0033	0.0025	0.0015	0.0011	0.0008
Station J-1	0.0084	0.0038	0.0029	0.0017	0.0009	0.0007	0.0005
Station J-2	0.0135	0.0046	0.0030	0.0018	0.0009	0.0006	0.0005
Harlem River							
Mile 3	----	0.0005	0.0027	0.0025	0.0014	0.0010	0.0007
Chapel Hill Channel							
Mile 46	0.0310	0.0160	0.0086	0.0048	0.0040	0.0018	0.0015

Table 12

Observed Dye Concentrations at High-Water Slack in Per Cent of Initial Concentration, Test 1

<u>Cycle</u>	<u>Surface</u>	<u>Bottom</u>	<u>Cycle</u>	<u>Surface</u>	<u>Bottom</u>	<u>Cycle</u>	<u>Surface</u>	<u>Bottom</u>
<u>Hudson River, Mile -8</u>			<u>Hudson River, Mile 4</u>			<u>Hudson River, Mile 16</u>		
8	0.0109	0.0024	3	0.1371	0.0344	3	0.0421	0.0675
12	0.0014	0.0004	7	0.0459	0.0416	6	0.0432	0.0589
20	0.0060	0.0025	10	0.0348	0.0372	8	0.0439	0.0481
25	0.0042	0.0005	14	0.0284	0.0270	11	0.0371	0.0495
30	0.0016	0.0016	21	0.0148	0.0133	15	0.0261	0.0290
35	0.0011	0.0011	26	0.0110	0.0126	22	0.0138	0.0143
40	0.0017	0.0012	31	0.0081	0.0081	27	0.0137	0.0142
45	0.0012	0.0034	36	0.0055	0.0066	32	0.0125	0.0141
50	0.0023	0.0018	41	----	0.0051	37	0.0084	0.0084
55	0.0018	0.0006	46	0.0058	0.0064	42	0.0091	0.0068
60	0.0018	0.0031	51	0.0042	0.0042	47	0.0064	0.0069
65	0.0006	0.0000	56	0.0024	0.0031	52	0.0030	0.0036
70	0.0025	0.0006	61	0.0031	0.0006	57	0.0049	0.0043
75	0.0020	0.0006	66	0.0025	0.0025	62	0.0132	0.0045
			71	0.0006	0.0019	67	0.0025	0.0046
						72	0.0039	0.0033
<u>Hudson River, Mile -4</u>			<u>Hudson River, Mile 8</u>			<u>Hudson River, Mile 20</u>		
3	0.0249	0.0040	3	0.1263	0.1173	6	0.0162	0.0274
5	0.0341	0.0120	7	0.0542	0.0524	8	0.0175	0.0198
9	0.0328	0.0176	10	0.0454	0.0401	12	0.0150	0.0208
13	0.0238	0.0127	14	0.0313	0.0309	15	0.0147	0.0201
20	0.0132	0.0076	21	0.0230	0.0199	22	0.0287	0.0138
25	0.0094	0.0020	26	0.0099	0.0157	27	0.0126	0.0137
30	0.0059	0.0021	31	0.0140	0.0097	32	----	0.0146
35	0.0065	0.0055	36	----	0.0128	37	0.0077	0.0072
40	0.0034	0.0022	41	0.0108	0.0045	42	0.0051	0.0079
45	0.0058	0.0034	46	0.0157	0.0047	47	0.0052	0.0059
50	0.0023	0.0023	51	0.0048	0.0042	52	0.0012	0.0053
55	0.0031	0.0018	56	0.0054	0.0049	57	0.0031	0.0062
60	0.0018	0.0013	61	0.0024	0.0019	62	0.0032	0.0032
65	0.0032	0.0025	66	0.0045	0.0019	67	0.0025	0.0032
70	0.0006	0.0006	71	0.0046	0.0013	72	0.0020	0.0014
75	0.0006	0.0014						
<u>Hudson River, Mile 0</u>			<u>Hudson River, Mile 12</u>			<u>Hudson River, Mile 23</u>		
3	0.0403	0.0254	3	0.1594	0.1625	15	0.0083	0.0098
6	0.0408	0.0432	5	0.0875	0.0848	22	0.0097	0.0190
9	0.0356	0.0261	7	0.0734	0.0711	27	0.0073	0.0095
14	0.0254	0.0270	11	0.0423	0.0428	32	0.0092	0.0087
20	0.0141	0.0167	14	0.0245	0.0284	37	0.0066	0.0033
25	0.0245	0.0114	21	0.0137	0.0209	42	0.0040	0.0046
30	0.0097	0.0059	26	0.0073	0.0110	47	0.0035	0.0059
35	0.0049	0.0039	31	0.0124	0.0107	52	0.0023	0.0036
40	0.0045	0.0028	36	0.0066	0.0056	57	0.0018	0.0080
45	0.0046	0.0034	41	0.0074	0.0079	62	0.0019	0.0032
50	0.0035	0.0042	46	0.0093	0.0088	67	0.0051	0.0046
55	0.0024	0.0031	51	0.0048	0.0048	72	0.0000	0.0020
60	0.0044	0.0024	56	0.0036	0.0043			
65	0.0006	0.0006	61	0.0024	0.0019			
70	0.0033	0.0013	66	0.0038	0.0013			
75	0.0000	0.0006	71	0.0025	0.0019			

(Continued)

Table 12 (Concluded)

Cycle	Middepth	Cycle	Middepth	Cycle	Middepth	Cycle	Middepth	River and Station	Cycle 75 Middepth
East River Mile 2		East River Mile 12		Harlem River Mile 3		Passaic River Mile 2		Additional Stations	
6	0.0479	3	0.0195	3	0.0116	44	0.0104	Hudson River	
8	0.0405	7	0.0150	7	0.0140	49	0.0047	Mile -9	0.0000
10	0.0340	9	0.0086	9	0.0148	54	0.0043	Mile -11	0.0000
12	0.0275	11	0.0125	11	0.0130	59	0.0031	Mile -13	0.0000
18	0.0180	13	0.0102	13	0.0127	64	0.0019	Mile -16	0.0000
23	0.0113	18	0.0110	18	0.0125	69	0.0013	Mile -18	0.0000
28	0.0111	23	0.0119	23	0.0139	74	0.0006	Chapel Hill Channel	
33	0.0082	28	0.0080	28	0.0090			Mile 48	0.0000
38	0.0056	33	0.0126	33	0.0082	Newark Bay		Mile 46	0.0040
43	0.0051	38	0.0061	38	0.0056	Mile 2		Arthur Kill	
48	0.0047	43	0.0041	43	0.0058	44	0.0063	Mile 12	0.0014
53	0.0030	48	0.0052	48	0.0047	49	0.0065	Mile 18	0.0014
58	0.0018	53	0.0054	53	0.0018	54	0.0043	Raritan River Channel	
63	0.0038	58	0.0031	58	0.0024	59	0.0024	Mile 23	0.0000
68	0.0046	63	0.0013	63	0.0013	64	0.0025	Mile 26	0.0000
73	0.0014	68	0.0065	68	0.0013	69	0.0013	Mile 29	0.0014
		73	0.0014	73	0.0006	74	0.0014	Mile 32	0.0006
								Mile 35	0.0000
East River Mile 7		East River Mile 17		Hackensack River Mile 2		Kill Van Kull Mile 3		Mile 38	0.0000
3	0.1014	33	0.0000	44	0.0063	44	0.0068	Mile 39	0.0000
6	0.0487	38	0.0005	49	0.0042	49	0.0042	Mile 42	0.0006
8	0.0443	43	0.0012	54	0.0030	54	0.0018	Mile 45	0.0000
10	0.0316	48	0.0000	59	0.0013	59	0.0024	Headbay	
12	0.0324	53	0.0012	64	0.0025	64	0.0032	A	0.0000
16	0.0200	58	0.0018	69	0.0025	69	0.0019	B	0.0000
23	0.0102	63	0.0000	74	0.0000	74	0.0000	C	0.0000
28	0.0085	68	0.0000						
33	0.0098	73	0.0006			Arthur Kill			
38	0.0094					Mile 7			
43	0.0068					44	0.0046		
48	0.0047					49	0.0035		
53	0.0018					54	0.0030		
58	0.0018					59	0.0062		
63	0.0025					64	0.0032		
68	0.0025					69	0.0052		
73	0.0020					74	0.0006		



Table 13

Observed Dye Concentrations at High-Water Slack in Per Cent of Initial Concentration, Test 2

Cycle	Surface	Bottom	Cycle	Surface	Bottom	Cycle	Surface	Bottom
Hudson River, Mile -8			Hudson River, Mile 0			Hudson River, Mile 8		
6	----	0.0004	2	0.0247	0.0017	2	0.1946	0.1924
8	0.0018	0.0010	4	0.0521	0.0133	4	0.1101	0.0983
10	0.0014	0.0014	6	0.0483	0.0204	6	0.0789	0.0692
12	0.0029	0.0039	8	0.0471	0.0298	8	0.0669	0.0576
14	0.0004	0.0039	10	0.0387	0.0215	10	0.0545	0.0420
16	0.0035	0.0025	12	0.0377	0.0257	12	0.0430	0.0334
18	0.0025	0.0010	14	0.0235	0.0167	14	0.0377	0.0338
20	0.0015	0.0020	16	0.0203	0.0144	16	0.0346	0.0302
22	----	0.0026	18	0.0196	0.0110	18	0.0260	0.0276
24	0.0031	0.0000	20	0.0207	0.0147	20	0.0258	0.0243
26	0.0031	0.0020	22	0.0138	0.0108	22	0.0205	0.0220
30	0.0016	0.0011	24	0.0124	0.0041	24	0.0135	0.0150
35	0.0044	0.0000	26	0.0146	0.0053	26	0.0130	0.0110
40	----	0.0062	30	0.0075	0.0043	30	0.0128	0.0139
45	0.0005	0.0000	35	0.0049	0.0044	35	0.0088	0.0065
50	0.0000	0.0012	40	0.0057	0.0028	40	0.0073	0.0057
55	0.0036	0.0000	45	0.0034	0.0052	45	0.0075	0.0087
60	0.0024	0.0013	50	0.0018	0.0012	50	0.0018	0.0012
65	0.0032	0.0019	55	0.0013	0.0054	55	0.0049	0.0031
70	0.0025	0.0046	60	0.0031	0.0024	60	0.0031	0.0013
75	0.0006	0.0006	65	0.0006	0.0006	65	0.0006	0.0006
80	0.0014	0.0006	70	0.0019	0.0019	70	0.0033	0.0033
85	0.0027	0.0006	75	0.0000	0.0014	75	0.0020	0.0059
90	0.0028	0.0015	80	0.0040	0.0026	80	0.0020	0.0034
95	0.0021	0.0000	85	0.0014	0.0006	85	0.0021	0.0014
100	0.0007	0.0007	90	0.0021	0.0028	90	0.0000	0.0000
			95	0.0015	0.0007	95	0.0021	0.0000
			100	0.0015	0.0022	100	0.0029	0.0029
Hudson River, Mile -4			Hudson River, Mile 4			Hudson River, Mile 12		
2	0.0144	----	2	0.1866	0.0470	2	0.0852	0.1749
4	0.0283	0.0054	4	0.1152	0.0493	4	0.0932	0.1134
6	0.0358	0.0111	6	0.0724	0.0506	6	0.0784	0.0858
8	0.0349	0.0137	8	0.0481	0.0405	8	0.0618	0.0660
10	0.0310	0.0149	10	0.0406	0.0378	10	0.0531	0.0525
12	0.0290	0.0135	12	0.0383	0.0338	12	0.0445	0.0392
14	0.0191	0.0064	14	0.0328	0.0231	14	0.0372	0.0396
16	0.0119	0.0194	16	0.0321	0.0248	16	0.0317	0.0336
18	0.0145	0.0065	18	0.0281	0.0205	18	0.0325	0.0310
20	0.0147	0.0071	20	0.0233	0.0182	20	0.0258	0.0273
22	0.0164	0.0067	22	0.0184	0.0169	22	0.0282	0.0246
24	0.0129	0.0037	24	0.0186	0.0114	24	0.0259	0.0244
26	0.0062	0.0053	26	0.0168	0.0115	26	0.0146	0.0163
30	0.0106	0.0043	30	0.0144	0.0086	30	0.0144	0.0133
35	0.0055	0.0005	35	0.0088	0.0077	35	0.0127	0.0109
40	0.0040	0.0040	40	0.0079	0.0102	40	0.0107	0.0090
45	0.0046	0.0017	45	0.0064	0.0052	45	0.0093	0.0075
50	0.0000	0.0023	50	0.0000	0.0060	50	0.0047	0.0023
55	0.0072	0.0092	55	0.0054	0.0000	55	0.0067	0.0043
60	0.0037	0.0037	60	0.0013	0.0018	60	0.0044	0.0037
65	0.0000	0.0000	65	0.0045	0.0045	65	0.0000	0.0000
70	0.0000	0.0019	70	0.0052	0.0006	70	0.0019	0.0019
75	0.0000	0.0000	75	0.0126	0.0014	75	0.0073	0.0006
80	0.0000	0.0020	80	0.0026	0.0020	80	0.0006	0.0020
85	0.0006	0.0006	85	0.0014	0.0006	85	0.0014	0.0014
90	0.0000	0.0000	90	0.0000	0.0000	90	0.0006	0.0000
95	0.0000	0.0000	95	0.0015	0.0043	95	0.0007	0.0021
100	0.0015	0.0000	100	0.0037	0.0000	100	0.0015	0.0022

(Continued)

(1 of 3 sheets)

Table 13 (Continued)

Cycle	Surface	Bottom	Cycle	Surface	Bottom	Cycle	Middepth	Cycle	Middepth	Cycle	Middepth
Hudson River Mile 16			Hudson River Mile 23			East River Mile 2		East River Mile 12		Harlem River Mile 3	
2	0.0009	0.0004	8	0.0042	0.0080	3	0.0765	3	0.0566	3	0.0009
4	0.0150	0.0439	10	0.0038	0.0105	5	0.0580	5	0.0410	5	0.0046
6	0.0348	0.0553	12	0.0058	0.0102	7	0.0514	7	0.0412	7	0.0084
8	0.0354	0.0433	14	0.0068	0.0093	9	0.0384	9	0.0370	9	0.0132
10	0.0258	0.0439	16	0.0104	0.0129	11	0.0365	11	0.0342	11	0.0149
12	0.0275	0.0344	18	0.0105	0.0127	13	0.0365	13	0.0316	13	0.0151
14	0.0264	0.0328	20	0.0111	0.0141	15	0.0280	15	0.0290	15	0.0133
16	0.0217	0.0302	22	0.0093	0.0112	17	0.0283	17	0.0229	17	0.0139
18	0.0226	0.0266	24	0.0083	0.0057	19	0.0181	19	0.0216	19	0.0157
20	0.0248	0.0243	26	0.0042	0.0089	21	0.0199	21	0.0199	21	0.0158
22	0.0241	0.0266	30	0.0064	0.0097	23	0.0196	23	0.0176	23	0.0154
24	0.0192	0.0150	35	0.0055	0.0060	25	0.0182	25	0.0145	25	0.0120
26	0.0089	0.0136	40	0.0040	0.0050	27	0.0153	27	0.0100	27	0.0095
30	0.0124	0.0128	45	0.0046	0.0075	31	0.0118	31	0.0090	31	0.0097
35	0.0093	0.0093	50	0.0042	0.0030	36	0.0133	36	0.0039	36	0.0121
40	0.0079	0.0073	55	0.0092	0.0000	41	0.0074	41	0.0045	41	0.0051
45	0.0052	0.0064	60	0.0044	0.0031	46	0.0116	46	0.0035	46	0.0052
50	0.0030	0.0047	65	0.0032	0.0006	51	0.0023	51	0.0005	51	0.0030
55	0.0061	0.0043	70	0.0013	0.0033	56	0.0043	56	0.0006	56	0.0061
60	0.0044	0.0024	75	0.0073	0.0000	61	0.0030	61	0.0056	61	0.0037
65	0.0051	0.0019	80	0.0026	0.0006	66	0.0013	66	0.0019	66	0.0025
70	0.0025	0.0019	85	0.0014	0.0006	71	0.0033	71	0.0006	71	0.0019
75	0.0020	0.0006	90	0.0006	0.0000	76	0.0026	76	0.0000	76	0.0073
80	0.0014	0.0026	95	0.0000	0.0000	81	0.0006	81	0.0020	81	0.0027
85	0.0014	0.0021	100	0.0015	0.0007	86	0.0021	86	0.0006	86	0.0006
90	0.0021	0.0006				91	0.0015	91	0.0021	91	0.0028
95	0.0015	0.0021				96	0.0028	96	0.0007	96	0.0007
100	0.0015	0.0007				101	0.0015	101	0.0022	101	0.0015
Hudson River Mile 20						East River Mile 7		East River Mile 17		Hackensack River Mile 2	
2	0.0000	0.0000				3	0.0969	5	0.0009	3	0.0000
4	0.0000	0.0004				5	0.0737	7	0.0010	5	0.0037
6	0.0028	0.0139				7	0.0533	9	0.0024	7	0.0079
8	0.0071	0.0203				9	0.0474	11	0.0063	9	0.0110
10	0.0072	0.0272				11	0.0419	13	0.0063	11	0.0115
12	0.0106	0.0198				13	0.0379	15	0.0074	13	0.0146
14	0.0103	0.0231				15	0.0300	17	0.0080	15	0.0133
16	0.0119	0.0194				17	0.0274	19	0.0157	17	0.0139
18	0.0095	0.0145				19	0.0227	21	0.0077	19	0.0140
20	0.0117	0.0198				21	0.0199	23	0.0078	21	0.0168
22	0.0097	0.0143				23	0.0201	25	0.0037	23	0.0119
24	0.0120	0.0150				25	0.0162	27	0.0026	25	0.0125
26	0.0104	0.0115				27	0.0153	31	0.0011	27	0.0095
30	0.0086	0.0106				31	0.0124	36	0.0011	31	0.0097
35	0.0065	0.0088				36	0.0083	41	0.0000	36	0.0077
40	0.0057	0.0067				41	0.0040	46	0.0000	41	0.0086
45	0.0022	0.0052				46	0.0041	51	0.0000	46	0.0058
50	0.0030	0.0023				51	0.0065	56	0.0036	51	0.0053
55	0.0049	0.0000				56	0.0043	61	0.0013	56	0.0073
60	0.0031	0.0050				61	0.0037	66	0.0025	61	0.0024
65	0.0032	0.0057				66	0.0006	71	0.0019	66	0.0025
70	0.0025	0.0025				71	0.0019	76	----	71	0.0025
75	0.0040	0.0034				76	0.0026	81	0.0006	76	0.0020
80	0.0014	0.0014				81	0.0000	86	0.0006	81	0.0027
85	0.0000	0.0021				86	0.0000	91	0.0015	86	0.0021
90	0.0000	0.0000				91	0.0028	96	0.0007	91	0.0015
95	0.0000	0.0028				96	0.0015	101	0.0015	96	0.0015
100	0.0000	0.0022				101	0.0015			101	0.0007

(Continued)

(2 of 3 sheets)

Table 13 (Concluded)

Cycle Middepth		Cycle Middepth		Cycle Middepth		Cycle Middepth		River and Station	50 Cycles Middepth	100 Cycles Middepth
Passaic River Mile 2		Newark Bay Mile 2		Kill Van Kull Mile 3		Arthur Kill Mile 7		Additional Stations		
3	0.0000	3	0.0077	3	0.0692	3	0.0004	Kill Van Kull		
5	0.0004	5	0.0175	5	0.0613	5	0.0000	Mile 2	0.0023	0.0022
7	0.0014	7	0.0248	7	0.0486	7	0.0047	Mile 4	0.0035	0.0022
9	0.0056	9	0.0280	9	0.0418	9	0.0024	Arthur Kill		
11	0.0053	11	0.0211	11	0.0356	11	0.0034	Mile 6	0.0042	0.0007
13	0.0068	13	0.0224	13	0.0316	13	0.0058	Mile 8	0.0012	0.0037
15	0.0168	15	0.0251	15	0.0280	15	0.0039	Mile 10	0.0030	0.0007
17	0.0099	17	0.0214	17	0.0229	17	0.0035	Mile 12	0.0030	0.0007
19	0.0131	19	0.0191	19	-----	19	0.0040	Mile 14	0.0023	0.0029
21	0.0122	21	0.0163	21	0.0204	21	0.0056	Mile 16	0.0023	0.0000
23	0.0124	23	0.0165	23	0.0201	23	0.0067	Mile 18	0.0018	0.0015
25	0.0083	25	0.0177	25	0.0145	25	0.0005	Raritan River		
27	0.0111	27	0.0131	27	0.0111	27	0.0026	Channel		
31	0.0102	31	0.0124	31	0.0102	31	0.0032	Mile 20	0.0023	0.0000
36	0.0110	33	0.0066	33	0.0083	33	0.0021	Mile 22	0.0012	0.0015
41	0.0062	41	0.0096	41	0.0074	41	0.0022	Mile 21	0.0023	0.0007
46	0.0081	46	0.0052	46	0.0058	46	0.0047	Mile 24	0.0005	0.0007
51	0.0012	51	0.0071	51	0.0060	51	0.0060	Mile 28	0.0023	0.0029
56	0.0121	56	0.0049	56	0.0036	56	0.0031	Mile 30	0.0030	0.0000
61	0.0037	61	0.0037	61	0.0006	61	0.0013	Mile 32	0.0065	0.0029
66	0.0154	66	0.0051	66	0.0045	66	0.0019	Mile 34	0.0035	0.0044
71	0.0130	71	0.0006	71	0.0013	71	0.0025	Mile 36	0.0023	0.0015
76	0.0034	76	0.0014	76	0.0014	76	0.0000	Mile 37	0.0030	0.0029
81	0.0020	81	0.0020	81	0.0027	81	0.0020	Mile 38	0.0018	0.0015
86	0.0006	86	0.0021	86	0.0021	86	0.0027	Mile 40	0.0018	0.0007
91	0.0042	91	0.0021	91	0.0021	91	0.0007	Mile 42	0.0030	0.0022
96	0.0007	96	0.0036	96	0.0015	96	0.0028	Mile 44	0.0030	0.0015
101	0.0015	101	0.0022	101	0.0015	101	0.0022	Mile 45	0.0018	0.0015
Lower Bay Station 8A		Lower Bay Station 9A						Chapel Hill		
22	0.0097	22	0.0071					Channel		
24	0.0052	24	0.0103					Mile 46	0.0107	0.0037
26	0.0062	26	0.0068					Mile 48	0.0000	0.0015
30	0.0070	30	0.0075					Mile 50	0.0071	0.0015
35	0.0055	35	0.0033					Hudson River		
40	0.0028	40	0.0045					Mile -10	0.0000	0.0000
45	0.0052	45	0.0046					Mile -12	0.0023	0.0022
50	0.0060	50	0.0047					Mile -14	0.0012	0.0044
55	0.0054	55	0.0013					Mile -16	0.0053	0.0000
60	0.0074	60	0.0050					Mile -18	0.0018	0.0015
65	0.0013	65	0.0000					Headbay		
70	0.0019	70	0.0019					A	-----	0.0000
75	0.0000	75	0.0026					B	-----	0.0000
80	0.0020	80	0.0000					C	-----	0.0029
85	0.0014	85	0.0041							
90	0.0036	90	0.0021							
95	0.0021	95	0.0021							
100	0.0007	100	0.0029							

Table 14

## Observed Dye Concentrations at High-Water Slack in Per Cent of Initial Concentration, Test 3

Cycle	Surface	Bottom	Cycle	Surface	Bottom	Cycle	Surface	Bottom
<u>Hudson River, Mile -18</u>			<u>Hudson River, Mile -12</u>			<u>Hudson River, Mile -4</u>		
40	0.0062	0.0050	40	0.0057	0.0045	2	0.0004	0.0000
45	0.0064	0.0050	45	0.0081	0.0064	4	0.0429	0.0096
50	0.0053	0.0035	50	0.0035	0.0060	6	0.0381	0.0116
55	0.0031	0.0031	55	0.0061	0.0043	8	0.0316	0.0148
60	0.0000	0.0024	60	0.0024	0.0044	10	0.0316	0.0201
65	0.0025	0.0025	65	0.0045	0.0045	12	0.0285	0.0126
70	0.0039	0.0025	70	0.0046	0.0039	14	0.0196	0.0097
75	0.0034	----	75	0.0087	0.0047	16	0.0158	0.0123
80	----	0.0040	80	0.0035	0.0034	18	0.0145	0.0100
85	0.0035	0.0021	85	0.0049	0.0027	20	0.0152	0.0117
90	----	----	90	0.0015	0.0028	22	0.0102	0.0097
95	0.0015	0.0015	95	0.0021	0.0028	24	0.0109	0.0067
100	0.0015	0.0022	100	0.0022	0.0007	30	0.0106	0.0081
<u>Hudson River, Mile -16</u>			<u>Hudson River, Mile -8</u>			35	0.0065	0.0049
40	----	0.0028	4	0.0215	0.0037	40	0.0040	0.0050
45	0.0041	0.0058	6	0.0199	0.0014	45	0.0052	0.0075
50	0.0053	0.0047	8	0.0231	0.0024	50	0.0053	0.0042
55	0.0043	0.0024	10	0.0086	0.0028	55	0.0036	0.0024
60	0.0031	0.0000	12	0.0087	0.0058	60	0.0013	0.0050
65	0.0025	0.0006	14	0.0122	0.0058	65	0.0025	0.0070
70	0.0033	0.0052	16	0.0089	0.0098	70	0.0019	0.0046
75	0.0073	0.0026	18	0.0070	0.0065	75	0.0026	0.0040
80	0.0014	0.0026	20	0.0086	0.0066	80	0.0054	0.0054
85	0.0021	0.0006	22	0.0071	0.0067	85	0.0035	0.0041
90	0.0015	0.0021	24	0.0072	0.0062	90	0.0028	0.0006
95	0.0021	----	30	0.0070	0.0064	95	0.0028	0.0073
100	0.0022	0.0022	35	0.0055	0.0065	100	0.0015	0.0037
<u>Hudson River, Mile -8</u>			40	0.0067	0.0063	<u>Hudson River, Mile 0</u>		
4	0.0215	0.0037	45	0.0052	0.0058	2	0.0395	0.0085
6	0.0199	0.0014	50	0.0042	0.0053	4	0.0695	0.0142
8	0.0231	0.0024	55	0.0013	0.0061	6	0.0571	0.0186
10	0.0086	0.0028	60	0.0050	0.0013	8	0.0396	0.0179
12	0.0087	0.0058	65	0.0025	0.0025	10	0.0320	0.0181
14	0.0122	0.0058	70	0.0039	0.0066	12	0.0314	----
16	0.0089	0.0098	75	0.0020	0.0034	14	0.0191	0.0117
18	0.0070	0.0065	80	0.0020	0.0040	16	0.0203	0.0123
20	0.0086	0.0066	85	0.0027	0.0021	18	0.0171	0.0100
22	0.0071	0.0067	90	0.0015	0.0042	20	0.0152	0.0096
24	0.0072	0.0062	95	0.0015	0.0028	22	0.0133	0.0102
30	0.0070	0.0064	100	0.0022	0.0000	24	0.0103	0.0083
35	0.0055	0.0065	<u>Hudson River, Mile 0</u>			30	0.0075	0.0075
40	0.0067	0.0063	2	0.0395	0.0085	35	0.0065	0.0077
45	0.0052	0.0058	4	0.0695	0.0142	40	0.0034	0.0034
50	0.0042	0.0053	6	0.0571	0.0186	45	0.0046	0.0041
55	0.0013	0.0061	8	0.0396	0.0179	50	0.0030	0.0060
60	0.0050	0.0013	10	0.0320	0.0181	55	0.0000	0.0024
65	0.0025	0.0025	12	0.0314	----	60	0.0006	0.0031
70	0.0039	0.0066	14	0.0191	0.0117	65	0.0000	0.0032
75	0.0020	0.0034	16	0.0203	0.0123	70	0.0025	0.0000
80	0.0020	0.0040	18	0.0171	0.0100	75	0.0006	0.0059
85	0.0027	0.0021	20	0.0152	0.0096	80	0.0026	0.0026
90	0.0015	0.0042	22	0.0133	0.0102	85	0.0006	0.0006
95	0.0015	0.0028	24	0.0103	0.0083	90	0.0006	0.0050
100	0.0022	0.0000	30	0.0075	0.0075	95	0.0015	0.0007
<u>Hudson River, Mile 0</u>			35	0.0065	0.0077	100	0.0000	0.0015
2	0.0395	0.0085	40	0.0034	0.0034			
4	0.0695	0.0142	45	0.0046	0.0041			
6	0.0571	0.0186	50	0.0030	0.0060			
8	0.0396	0.0179	55	0.0000	0.0024			
10	0.0320	0.0181	60	0.0006	0.0031			
12	0.0314	----	65	0.0000	0.0032			
14	0.0191	0.0117	70	0.0025	0.0000			
16	0.0203	0.0123	75	0.0006	0.0059			
18	0.0171	0.0100	80	0.0026	0.0026			
20	0.0152	0.0096	85	0.0006	0.0006			
22	0.0133	0.0102	90	0.0006	0.0050			
24	0.0103	0.0083	95	0.0015	0.0007			
30	0.0075	0.0075	100	0.0000	0.0015			
35	0.0065	0.0077						
40	0.0034	0.0034						
45	0.0046	0.0041						
50	0.0030	0.0060						
55	0.0000	0.0024						
60	0.0006	0.0031						
65	0.0000	0.0032						
70	0.0025	0.0000						
75	0.0006	0.0059						
80	0.0026	0.0026						
85	0.0006	0.0006						
90	0.0006	0.0050						
95	0.0015	0.0007						
100	0.0000	0.0015						

(Continued)

(1 of 4 sheets)

Table 14 (Continued)

Cycle	Surface	Bottom	Cycle	Surface	Bottom	Cycle	Surface	Bottom
<u>Hudson River, Mile 4</u>			<u>Hudson River, Mile 12</u>			<u>Hudson River, Mile 20</u>		
2	0.1964	0.0260	2	0.1152	0.3049	2	0.0009	0.0017
4	0.0864	0.0429	4	0.0855	0.0965	4	0.0046	0.0100
6	0.0510	0.0381	6	0.0636	0.0645	6	0.0047	0.0167
8	0.0476	0.0292	8	0.0448	0.0500	8	0.0052	0.0184
10	0.0330	0.0272	10	0.0348	0.0401	10	0.0062	0.0157
12	0.0305	0.0222	12	0.0281	0.0338	12	0.0082	0.0121
14	0.0260	0.0196	14	0.0225	0.0260	14	0.0054	0.0132
16	0.0198	0.0194	16	0.0213	0.0217	16	0.0059	0.0109
18	0.0185	0.0125	18	0.0171	0.0196	18	0.0070	0.0110
20	0.0152	0.0142	20	0.0152	0.0152	20	0.0182	0.0070
22	0.0174	0.0108	22	0.0133	0.0133	22	0.0056	0.0093
24	0.0094	0.0088	24	0.0098	0.0114	24	0.0040	0.0057
30	0.0075	0.0049	30	0.0075	0.0081	30	0.0021	0.0038
35	0.0049	0.0049	35	0.0072	0.0055	35	0.0016	0.0028
40	0.0034	0.0034	40	0.0028	0.0028	40	0.0022	0.0017
45	0.0034	0.0017	45	0.0017	0.0034	45	0.0017	0.0017
50	0.0035	0.0042	50	0.0023	0.0018			
55	0.0031	0.0000	55	0.0000	0.0006			
60	0.0018	0.0013	60	0.0000	0.0013			
65	0.0019	0.0000	65	0.0013	0.0000			
70	0.0000	0.0025	100	0.0015	0.0015			
75	0.0020	0.0014						
80	0.0020	0.0020						
85	0.0014	0.0041						
90	0.0000	0.0006						
95	0.0015	0.0000						
100	0.0015	0.0015						
<u>Hudson River, Mile 8</u>			<u>Hudson River, Mile 16</u>			<u>Hudson River, Mile 23</u>		
2	0.1739	0.1094	2	0.0053	0.0702	4	0.0004	0.0009
4	0.0937	0.0741	4	0.0310	0.0585	6	0.0014	0.0041
6	0.0590	0.0534	6	0.0385	0.0432	8	0.0014	0.0052
8	0.0425	0.0411	8	0.0260	0.0326	10	0.0034	0.0052
10	0.0392	0.0301	10	0.0195	0.0306	12	0.0039	0.0067
12	0.0271	0.0242	12	0.0184	0.0237	14	0.0035	0.0064
14	0.0235	0.0220	14	0.0176	0.0215	16	0.0040	0.0050
16	0.0208	0.0190	16	0.0183	0.0158	18	0.0050	0.0070
18	0.0165	0.0165	18	0.0140	0.0135	20	0.0030	0.0045
20	0.0117	0.0142	20	0.0142	0.0111	22	0.0046	0.0061
22	0.0138	0.0102	22	0.0102	0.0077	24	0.0020	0.0026
24	0.0094	0.0078	24	0.0078	0.0072	30	0.0021	0.0016
30	0.0070	0.0043	30	0.0043	0.0038	35	0.0005	0.0011
35	0.0049	0.0055	35	0.0021	0.0039	40	0.0005	0.0012
40	0.0017	0.0022	40	0.0022	0.0012			
45	0.0022	0.0029	45	0.0017	0.0017			
50	0.0030	0.0035	50	0.0012	0.0018			
55	0.0013	0.0013	55	0.0006	0.0000			
60	0.0031	0.0018	60	0.0013	0.0006			
65	0.0032	0.0000	100	0.0000	0.0000			
70	0.0025	0.0013						
75	0.0040	0.0014						
80	0.0020	0.0006						
85	0.0006	0.0006						
90	0.0021	0.0000						
95	0.0064	0.0007						
100	0.0044	0.0000						

(Continued)

(2 of 4 sheets)

Table 14 (Continued)

<u>Cycle</u>	<u>Middepth</u>	<u>Cycle</u>	<u>Middepth</u>	<u>Cycle</u>	<u>Middepth</u>	<u>Cycle</u>	<u>Middepth</u>	<u>Cycle</u>	<u>Middepth</u>
<u>Lower Bay Station 8A</u>		<u>East River Mile 2</u>		<u>East River Mile 12</u>		<u>Harlem River Mile 3</u>		<u>Passaic River Mile 2</u>	
4	0.0224	3	0.0421	3	0.0372	3	0.0032	5	0.0004
6	0.0256	5	0.0539	5	0.0341	5	0.0543	7	0.0010
8	0.0231	7	0.0411	7	0.0266	7	0.0108	9	0.0038
10	0.0225	9	0.0318	9	0.0204	9	0.0118	11	0.0043
12	0.0165	11	0.0274	11	0.0192	11	0.0120	13	0.0078
14	0.0117	13	0.0229	13	0.0141	13	0.0121	15	0.0064
16	0.0123	15	0.0187	15	0.0133	15	0.0093	17	0.0094
18	0.0145	17	0.0159	17	0.0094	17	0.0094	19	0.0085
20	0.0096	19	0.0140	19	0.0070	19	0.0076	21	0.0071
22	0.0102	21	0.0118	21	0.0082	21	0.0056	23	0.0098
24	0.0078	23	0.0108	23	0.0046	23	0.0057	25	0.0088
30	0.0070	25	0.0062	25	0.0037	25	0.0052	31	0.0054
35	0.0044	31	0.0070	31	0.0021	31	0.0048	36	0.0066
40	0.0028	36	0.0028	36	0.0039	36	0.0049	41	0.0051
45	0.0041	41	0.0034	41	0.0000	41	0.0040	46	0.0064
50	0.0042	46	0.0029	46	0.0005	46	0.0012	51	0.0042
55	0.0013	51	0.0023	51	0.0000	51	0.0000	56	0.0018
60	0.0168	56	0.0018	56	0.0013	56	0.0031	61	0.0024
65	0.0025	61	0.0031	61	0.0019	61	0.0013	66	0.0025
70	0.0013	66	0.0019	66	0.0000	66	0.0000	71	0.0033
75	0.0014	71	0.0019	101	0.0015	71	0.0013	76	0.0006
80	0.0006	76	0.0026			76	0.0020	81	0.0020
85	0.0006	81	0.0006			81	0.0000	86	0.0014
90	0.0036	86	0.0006			86	0.0000	91	0.0000
95	0.0015	91	0.0007			91	0.0000	96	0.0022
100	0.0029	96	0.0051			96	0.0015	101	0.0022
		101	0.0000			101	0.0066		
<u>Lower Bay Station 9A</u>		<u>East River Mile 7</u>		<u>East River Mile 17</u>		<u>Hackensack River Mile 2</u>		<u>Newark Bay Mile 2</u>	
4	0.0049	3	0.0919	3	0.0000	5	0.0000	3	0.0009
6	0.0153	5	0.0608	5	0.0000	7	0.0033	5	0.0111
8	0.0245	7	0.0466	7	0.0010	9	0.0076	7	0.0130
10	0.0205	9	0.0356	9	0.0014	11	0.0091	9	0.0186
12	0.0198	11	0.0288	11	0.0010	13	0.0107	11	0.0168
14	0.0140	13	0.0248	13	0.0000	15	0.0089	13	0.0180
16	0.0142	15	0.0197	15	0.0005	17	0.0115	15	0.0172
18	0.0120	17	0.0179	17	0.0005	19	0.0121	17	0.0159
20	0.0126	19	0.0140	19	0.0030	21	0.0122	19	0.0131
22	0.0123	21	0.0118	21	0.0030	23	0.0087	21	0.0097
24	0.0088	23	0.0057	23	0.0000	25	0.0120	23	0.0128
30	0.0070	25	0.0046	25	0.0000	31	0.0070	25	0.0114
35	0.0060	31	0.0059	31	0.0000	36	0.0061	31	0.0075
40	0.0028	36	0.0049	36	0.0000	41	0.0045	36	0.0056
45	0.0058	41	0.0029	41	0.0000	46	0.0035	41	0.0034
50	0.0047	46	0.0029	46	0.0023	51	0.0042	46	0.0069
55	0.0018	51	0.0018	51	0.0000	56	0.0043	51	0.0023
60	0.0000	56	0.0013	56	0.0000	61	0.0031	56	0.0024
65	0.0032	61	0.0000	61	0.0000	66	0.0038	61	0.0006
70	0.0072	66	0.0006	66	----	71	0.0033	66	0.0006
75	0.0014	71	0.0006	101	0.0000	76	0.0020	71	0.0025
80	0.0006	76	0.0000			81	0.0000	76	0.0014
85	0.0000	81	0.0000			86	0.0021	81	0.0014
90	0.0006	86	0.0000			91	0.0007	86	0.0027
95	0.0015	91	0.0015			96	0.0007	91	0.0021
100	0.0022	96	0.0000			101	0.0015	96	0.0000
		101	0.0000					101	0.0000

(Continued)

(3 of 4 sheets)

Table 14 (Concluded)

Cycle	Middepth	Cycle	Middepth	River and Station	50 Cycles Middepth	100 Cycles Middepth
<u>Arthur Kill</u> <u>Mile 7</u>		<u>Jamaica Bay</u> <u>Station J-1</u>		<u>Additional Stations</u>		
3	0.0000	16	0.0035	Kill Van Kull		
5	0.0018	18	0.0076	Mile 2	0.0035	0.0015
7	0.0028	20	0.0076	Mile 4	0.0023	0.0015
9	0.0062	22	0.0082	Arthur Kill		
11	0.0057	24	0.0046	Mile 6	0.0018	0.0015
13	0.0082	30	0.0064	Mile 8	0.0023	0.0015
15	0.0069	35	0.0060	Mile 10	0.0030	0.0015
17	0.0050	40	0.0067	Mile 12	0.0035	0.0022
19	0.0066	45	0.0046	Mile 14	0.0047	0.0029
21	0.0056	50	0.0018	Mile 16	0.0047	0.0029
23	0.0052	55	0.0031	Mile 18	0.0035	0.0044
25	0.0042	60	----	Paritan River Channel		
31	0.0032	65	0.0013	Mile 20	0.0023	0.0015
36	0.0029	70	0.0025	Mile 21	0.0047	0.0022
41	0.0029	75	0.0026	Mile 22	0.0035	0.0015
46	0.0029	80	0.0000	Mile 24	0.0023	0.0015
51	0.0053	85	0.0021	Mile 28	0.0042	0.0015
56	0.0043	90	0.0028	Mile 30	0.0042	0.0037
61	0.0000	95	0.0028	Mile 32	0.0065	0.0029
66	0.0032			Mile 34	0.0018	0.0000
71	0.0025			Mile 36	0.0042	0.0015
76	0.0014			Mile 37	0.0047	0.0029
81	0.0014			Mile 38	0.0053	0.0022
86	0.0021			Mile 39	0.0047	0.0015
91	0.0021			Mile 40	0.0060	0.0007
96	0.0022			Mile 42	0.0065	0.0015
101	0.0007			Mile 44	0.0047	0.0015
				Mile 45	0.0053	0.0029
<u>Kill Van Kull</u> <u>Mile 3</u>		<u>Jamaica Bay</u> <u>Station J-2</u>		Chapel Hill Channel		
3	0.0376	16	0.0059	Mile 46	0.0047	0.0007
5	0.0502	18	0.0060	Mile 48	0.0065	0.0015
7	0.0434	20	0.0051	Mile 50	0.0053	0.0000
9	0.0352	22	0.0067	Hudson River		
11	0.0256	24	0.0041	-10 surface	0.0047	0.0015
13	0.0234	30	0.0043	-10 bottom	0.0035	0.0007
15	0.0201	35	0.0049	-14 surface	0.0071	0.0015
17	0.0170	40	0.0022	-14 bottom	0.0077	0.0022
19	0.0125	45	0.0022	Headbay		
21	0.0118	50	0.0030	A	----	0.0000
23	0.0124	55	0.0018	B	----	0.0029
25	0.0094	60	0.0000	C	----	0.0029
31	0.0091	65	0.0025			
36	0.0044	70	0.0039			
41	0.0029	75	0.0006			
46	0.0029	80	0.0020			
51	0.0030	85	0.0006			
56	0.0110	90	0.0036			
61	0.0000	95	0.0015			
66	0.0013					
71	0.0013					
76	0.0000					
81	0.0000					
86	0.0014					
91	0.0015					
96	0.0015					

Table 15

Observed Dye Concentrations at High-Water Slack in Per Cent of Initial Concentration, Test 4

Cycle	Surface	Bottom	Cycle	Surface	Bottom	Cycle	Surface	Bottom
<u>Hudson River, Mile -16</u>			<u>Hudson River, Mile -8</u>			<u>Hudson River, Mile 0</u>		
10	0.0052	0.0038	4	0.0041	0.0014	2	0.0672	0.0036
12	0.0053	0.0039	6	0.0092	0.0037	4	0.0595	0.0288
14	0.0039	0.0035	8	0.0141	0.0033	6	0.0561	0.0278
16	0.0075	0.0040	10	0.0258	0.0057	8	0.0344	0.0231
18	0.0070	0.0019	12	0.0159	0.0034	10	0.0310	0.0187
20	0.0076	0.0036	14	0.0152	0.0025	12	0.0237	----
22	0.0077	0.0036	16	0.0138	0.0069	14	0.0171	0.0132
24	0.0072	0.0031	18	0.0090	0.0045	16	0.0129	0.0114
30	0.0070	0.0043	20	0.0071	0.0045	18	0.0120	0.0160
35	0.0077	0.0033	22	0.0052	0.0041	20	0.0101	0.0071
40	0.0073	0.0057	24	0.0094	0.0072	22	0.0071	0.0052
45	0.0093	0.0041	30	0.0075	0.0054	24	0.0057	0.0094
50	0.0100	0.0042	35	0.0044	0.0065	30	0.0054	0.0091
55	0.0092	0.0036	40	0.0057	0.0057	35	0.0033	0.0055
60	0.0050	0.0037	45	0.0029	0.0058	40	0.0057	0.0062
65	0.0045	0.0038	50	0.0035	0.0053	45	0.0017	0.0058
70	0.0046	0.0039	55	0.0049	0.0049	50	0.0030	0.0042
75	0.0047	0.0014	60	0.0044	0.0050	55	0.0031	0.0049
80	0.0020	0.0020	65	0.0038	0.0038	60	0.0037	0.0018
85	0.0035	0.0027	70	0.0039	0.0039	65	0.0045	0.0045
90	0.0021	0.0028	75	0.0047	0.0034	70	0.0019	0.0046
95	0.0021	0.0028	80	0.0014	0.0020	75	0.0014	0.0014
100	0.0015	0.0052	85	0.0027	0.0027	80	0.0006	0.0034
			90	0.0042	0.0036	85	0.0006	0.0021
			95	0.0036	0.0021	90	0.0006	0.0021
			100	0.0029	0.0022	95	0.0007	0.0021
						100	0.0015	0.0029
<u>Hudson River, Mile -12</u>			<u>Hudson River, Mile -4</u>			<u>Hudson River, Mile 4</u>		
4	0.0023	0.0014	2	0.0000	0.0000	2	0.1825	0.0269
6	0.0041	0.0018	4	0.0297	0.0064	4	0.0833	0.0562
8	0.0042	0.0042	6	0.0352	0.0139	6	0.0516	0.0441
10	0.0048	0.0024	8	0.0377	0.0151	8	0.0419	0.0335
12	0.0053	0.0058	10	0.0301	0.0157	10	0.0277	0.0229
14	0.0068	0.0058	12	0.0251	0.0145	12	0.0281	0.0208
16	0.0054	0.0059	14	0.0186	0.0097	14	0.0186	0.0132
18	0.0035	0.0035	16	0.0144	0.0098	16	0.0169	0.0119
20	0.0071	0.0071	18	0.0116	0.0080	18	0.0125	0.0105
22	0.0077	0.0067	20	0.0101	0.0060	20	0.0111	0.0086
24	0.0088	0.0057	22	0.0071	0.0077	22	0.0093	0.0067
30	0.0048	0.0027	24	0.0072	----	24	0.0094	0.0078
35	0.0028	0.0049	30	0.0027	0.0059	30	0.0070	0.0054
40	0.0057	0.0057	35	0.0049	0.0055	35	0.0044	0.0044
45	0.0069	0.0064	40	0.0040	0.0062	40	0.0040	0.0045
50	0.0047	0.0018	45	0.0052	0.0081	45	0.0034	0.0012
55	0.0054	0.0061	50	0.0023	0.0053	50	0.0030	0.0018
60	0.0055	0.0050	55	0.0031	0.0036	55	0.0036	0.0024
65	0.0038	0.0038	60	0.0031	0.0031	60	0.0013	0.0031
70	0.0058	0.0039	65	0.0045	0.0038	65	0.0025	0.0019
75	0.0014	0.0034	70	0.0052	0.0039	70	0.0025	0.0025
80	0.0026	0.0034	75	0.0026	0.0034	75	0.0014	0.0006
85	0.0021	0.0027	80	0.0034	0.0020	80	0.0026	0.0014
90	0.0021	0.0028	85	0.0035	0.0035	85	0.0006	0.0014
95	0.0043	0.0015	90	0.0021	0.0036	90	0.0006	0.0015
100	0.0015	----	95	0.0028	0.0028	95	0.0015	0.0007
			100	0.0015	0.0022	100	0.0000	0.0007

(Continued)

(1 of 4 sheets)



Table 15 (Continued)

Cycle	Surface	Bottom	Cycle	Surface	Bottom	Cycle	Middepth	Cycle	Middepth
Hudson River Mile 8			Hudson River Mile 16			Lower Bay Station 8A		East River Mile 2	
2	0.1637	0.0991	2	0.0085	0.0125	4	0.0133	3	0.0774
4	0.0974	0.0589	4	0.0302	0.0535	6	0.0023	5	0.0599
6	0.0590	0.0516	6	----	0.0422	8	0.0198	7	----
8	0.0415	0.0391	8	0.0268	0.0282	10	0.0201	9	0.0332
10	0.0296	0.0282	10	0.0181	0.0219	12	0.0194	11	0.0249
12	0.0247	0.0194	12	0.0174	0.0189	14	0.0142	13	0.0209
14	0.0186	0.0200	14	0.0142	0.0157	16	0.0123	15	0.0147
16	0.0134	0.0158	16	0.0109	0.0144	18	0.0140	17	0.0130
18	0.0135	0.0120	18	0.0095	0.0100	20	0.0101	19	0.0096
20	0.0091	0.0111	20	0.0076	0.0101	22	0.0082	21	0.0092
22	0.0108	0.0102	22	0.0097	0.0093	24	0.0046	23	0.0102
24	0.0072	0.0078	24	0.0058	0.0058	30	0.0070	25	0.0094
30	0.0048	0.0064	30	0.0016	0.0032	35	0.0055	31	0.0048
35	0.0028	0.0033	35	0.0039	0.0033	40	0.0050	36	0.0039
40	0.0028	0.0050	40	0.0022	0.0034	45	0.0046	41	0.0040
45	0.0034	0.0041	45	0.0022	0.0034	50	0.0035	46	0.0041
50	0.0023	0.0030	100	0.0015	0.0022	55	0.0036	51	0.0018
55	0.0024	0.0043				60	0.0044	56	0.0036
60	0.0018	0.0024				65	0.0032	61	0.0063
65	0.0019	0.0032				70	0.0046	66	0.0025
70	0.0013	0.0025				75	0.0059	71	0.0025
75	0.0014	0.0020				80	0.0020	76	0.0026
80	0.0014	0.0014				85	0.0021	81	0.0020
85	0.0014	0.0021				90	0.0015	86	0.0027
90	0.0006	0.0006				95	0.0021	91	0.0015
95	0.0000	0.0015				100	0.0015	96	0.0015
100	0.0015	0.0007						101	0.0037
Hudson River Mile 12			Hudson River Mile 20			Lower Bay Station 9A		East River Mile 7	
2	0.1412	0.2928	4	0.0009	0.0106	4	0.0127	3	0.0738
4	0.0822	0.0851	6	0.0055	0.0139	6	0.0149	5	0.0497
6	0.0590	0.0627	8	0.0052	0.0132	8	0.0203	7	0.0360
8	0.0453	0.0433	10	0.0052	0.0149	10	0.0191	9	0.0232
10	0.0348	0.0334	12	0.0067	0.0184	12	0.0179	11	0.0235
12	0.0281	0.0281	14	0.0068	0.0113	14	0.0113	13	0.0175
14	0.0206	0.0210	16	0.0029	0.0109	16	0.0114	15	0.0147
16	0.0138	0.0154	18	0.0050	----	18	0.0110	17	0.0124
18	0.0150	0.0156	20	0.0041	0.0071	20	0.0056	19	0.0081
20	0.0152	0.0132	22	0.0030	0.0077	22	0.0093	21	0.0092
22	0.0133	0.0108	24	0.0031	0.0052	24	----	23	0.0102
24	0.0098	0.0047	30	0.0011	0.0032	30	0.0064	25	0.0068
30	0.0048	0.0054	35	0.0016	0.0028	35	0.0055	31	0.0048
35	0.0039	0.0039	40	0.0005	0.0022	40	0.0050	36	0.0039
40	0.0034	0.0028	100	0.0000	0.0007	45	0.0041	41	0.0045
45	0.0034	0.0029				50	0.0042	46	0.0017
50	0.0023	0.0023	Hudson River Mile 23			55	0.0031	51	0.0023
55	0.0018	0.0018	6	0.0023	0.0060	60	0.0031	56	0.0024
60	0.0005	0.0018	8	0.0038	0.0075	65	0.0019	61	0.0019
65	0.0013	0.0019	10	0.0048	0.0086	70	0.0039	66	0.0019
70	0.0013	0.0019	12	0.0082	----	75	0.0034	71	0.0019
75	0.0026	0.0026	14	0.0019	0.0049	80	0.0026	76	0.0026
80	0.0006	0.0000	16	0.0040	0.0025	85	0.0014	81	0.0006
85	0.0021	0.0014	18	0.0005	0.0010	90	0.0028	86	0.0014
90	0.0006	0.0021	20	0.0020	0.0015	95	0.0021	91	0.0021
95	0.0021	0.0021	22	0.0005	0.0015	100	0.0037	96	0.0015
100	0.0021	0.0021	24	0.0031	0.0037			101	0.0015
			30	0.0000	0.0016				

(Continued)

(2 of 4 sheets)

Table 15 (Continued)

<u>Cycle</u>	<u>Middepth</u>	<u>Cycle</u>	<u>Middepth</u>	<u>Cycle</u>	<u>Middepth</u>	<u>Cycle</u>	<u>Middepth</u>	<u>Cycle</u>	<u>Middepth</u>	<u>Cycle</u>	<u>Middepth</u>
East River Mile 12		Harlem River Mile 3		Passaic River Mile 2		Kill Van Kull Mile 3		Raritan River Channel, Mile 35			
3	0.0126	3	0.0072	3	0.0000	3	0.0376	12	0.0135		
5	0.0092	5	0.0097	5	0.0009	5	0.0475	14	0.0107		
7	0.0084	7	0.0112	7	0.0065	7	0.0337	16	0.0098		
9	0.0080	9	0.0118	9	0.0028	9	0.0332	18	0.0085		
11	0.0073	11	0.0120	11	0.0067	11	0.0249	20	0.0086		
13	0.0024	13	0.0049	13	0.0068	13	0.0205	22	0.0082		
15	0.0064	15	0.0074	15	0.0064	15	0.0162	24	0.0083		
17	0.0044	17	0.0069	17	0.0065	17	0.0130	30	0.0064		
19	0.0030	19	0.0055	19	0.0091	19	0.0110	35	----		
21	0.0015	21	0.0056	21	0.0082	21	0.0097	40	0.0062		
23	0.0041	23	0.0026	23	0.0078	23	0.0082	45	0.0069		
25	0.0052	25	0.0057	25	0.0130	25	0.0068	50	0.0065		
31	0.0021	31	0.0038	31	0.0070	31	0.0059	55	0.0043		
36	0.0028	36	0.0021	36	0.0049	36	0.0061	60	0.0037		
41	0.0017	41	0.0012	41	0.0074	41	0.0045	65	0.0032		
46	0.0017	46	0.0005	46	0.0052	46	0.0041	70	----		
51	0.0053	51	0.0012	51	0.0018	51	0.0023	75	0.0053		
56	0.0013	56	0.0000	56	0.0024	56	0.0018	80	0.0034		
61	0.0013	61	0.0000	61	0.0038	61	0.0024	85	0.0035		
66	0.0013	66	0.0006	66	0.0025	66	0.0025	90	0.0015		
71	0.0013	71	0.0006	71	0.0025	71	0.0013	95	0.0028		
76	0.0006	76	0.0000	76	0.0026	76	0.0020	100	0.0007		
81	0.0014	81	0.0014	81	0.0041	81	0.0041				
86	0.0041	86	0.0000	86	0.0027	86	0.0021				
91	0.0050	91	0.0007	91	0.0021	91	0.0015				
96	0.0015	96	0.0000	96	0.0022	96	0.0022				
101	0.0000	101	0.0007	101	0.0029	101	0.0015				
East River Mile 17		Hackensack River Mile 2		Newark Bay Mile 2		Arthur Kill Mile 7		Raritan River Channel, Mile 41			
3	0.0000	3	0.0145	3	0.0023	3	0.0009	12	0.0073		
5	0.0000	5	0.0014	5	0.0165	5	0.0004	14	0.0083		
7	0.0000	7	0.0028	7	0.0164	7	0.0018	16	0.0054		
9	0.0000	9	0.0080	9	0.0200	9	0.0014	18	0.0050		
11	0.0014	11	0.0073	11	0.0158	11	0.0029	20	0.0056		
13	0.0000	13	0.0112	13	0.0180	13	0.0053	22	0.0077		
15	0.0019	15	0.0114	15	0.0153	15	0.0050	24	0.0057		
17	0.0000	17	0.0119	17	----	17	0.0044	30	0.0070		
19	0.0000	19	0.0106	19	0.0110	19	0.0025	35	0.0062		
21	0.0000	21	0.0097	21	0.0097	21	0.0030	40	0.0045		
23	0.0000	23	0.0087	23	0.0067	23	0.0005	45	0.0058		
25	0.0000	25	0.0057	25	0.0057	25	0.0042	50	0.0023		
31	0.0000	31	0.0070	31	0.0048	31	0.0032	55	0.0049		
36	0.0000	36	0.0056	36	0.0039	36	0.0066	60	0.0050		
41	0.0000	41	0.0057	41	0.0022	41	0.0034	65	0.0038		
46	0.0000	46	0.0047	46	0.0041	46	0.0029	70	0.0033		
51	0.0000	51	0.0030	51	0.0018	51	0.0035	75	0.0040		
56	0.0000	56	0.0043	56	0.0024	56	0.0024	80	0.0020		
61	0.0000	61	0.0037	61	0.0024	61	0.0031	85	0.0027		
66	0.0000	66	0.0032	66	0.0013	66	0.0038	90	0.0021		
71	0.0000	71	0.0033	71	0.0019	71	0.0039	95	0.0028		
76	0.0000	76	0.0034	76	0.0006	76	0.0020	100	0.0037		
81	0.0000	81	0.0014	81	0.0014	81	0.0027				
86	0.0000	86	0.0027	86	0.0021	86	0.0027				
91	0.0000	91	0.0028	91	0.0021	91	0.0021				
96	0.0000	96	0.0028	96	0.0015	96	0.0015				
101	0.0000	101	0.0022	101	0.0022	101	0.0029				

(Continued)

(3 of 4 sheets)

Table 15 (Concluded)

Cycle	Middepth	Cycle	Middepth	Cycle	Middepth	River and Station	50 Cycles Middepth	100 Cycles Middepth
Chapel Hill Channel, Mile 46		Jamaica Bay Station J-1		Jamaica Bay Station J-2		Additional Stations		
12	0.0131	6	0.0033	6	0.0018	Kill Van Kull		
14	0.0088	8	0.0042	8	0.0010	Mile 2	0.0035	0.0007
16	0.0098	10	0.0057	10	0.0067	Mile 4	0.0035	0.0015
18	0.0090	12	0.0063	12	0.0063	Arthur Kill		
20	0.0091	14	0.0058	14	0.0058	Mile 6	0.0035	0.0015
22	----	16	0.0044	16	0.0044	Mile 8	0.0018	0.0029
24	----	18	0.0076	18	0.0070	Mile 10	0.0030	0.0022
30	0.0054	20	0.0060	20	----	Mile 12	0.0023	0.0022
35	0.0028	22	0.0071	22	0.0046	Mile 14	0.0035	0.0029
40	0.0073	24	0.0041	24	0.0052	Mile 16	0.0042	0.0022
45	0.0058	30	0.0043	30	0.0038	Mile 18	0.0035	0.0007
50	0.0030	35	0.0072	35	0.0052	Raritan River Channel		
55	0.0018	40	0.0067	40	0.0040	Mile 20	0.0042	0.0029
60	----	45	0.0065	45	0.0075	Mile 21	0.0047	0.0052
65	0.0025	50	0.0047	50	0.0083	Mile 22	0.0023	0.0022
70	0.0025	55	0.0036	55	0.0049	Mile 24	0.0030	0.0037
75	0.0040	60	0.0050	60	0.0044	Mile 28	0.0042	0.0029
80	0.0054	65	0.0045	65	0.0038	Mile 30	0.0047	0.0044
85	0.0027	70	0.0046	70	0.0046	Mile 32	0.0065	0.0029
90	0.0000	75	0.0040	75	0.0034	Mile 34	0.0060	0.0029
95	0.0015	80	0.0040	80	0.0020	Mile 36	0.0000	0.0029
100	0.0015	85	0.0021	85	0.0021	Mile 37	0.0042	0.0037
		90	0.0036	90	0.0041	Mile 38	0.0042	0.0029
		95	0.0028	95	0.0015	Mile 39	0.0042	0.0029
		100	0.0037	100	0.0037	Mile 40	0.0060	0.0037
						Mile 42	0.0060	0.0029
						Mile 44	0.0042	0.0029
						Mile 45	0.0035	0.0037
						Chapel Hill Channel		
						Mile 46	0.0023	0.0044
						Mile 48	0.0030	0.0052
						Mile 50	0.0035	0.0037
						Hudson River		
						-18 surface	0.0053	0.0022
						-18 bottom	0.0018	0.0029
						Headbay		
						A	----	0.0044
						B	----	0.0022
						C	----	0.0022

Table 16

Observed Dye Concentrations at High-Water Slack in Per Cent of Initial Concentration, Test 5

Cycle	Surface	Bottom	Cycle	Surface	Bottom	Cycle	Surface	Bottom
Hudson River, Mile -16			Hudson River, Mile -8			Hudson River, Mile 0		
12	0.0010	0.0024	4	0.0004	0.0000	2	0.0888	0.0215
14	0.0019	0.0025	6	0.0084	0.0037	4	0.0654	0.0362
16	0.0015	0.0019	8	0.0071	0.0085	6	0.0504	0.0557
18	0.0040	0.0025	10	0.0048	0.0010	8	0.0354	0.0282
20	0.0020	0.0025	12	0.0131	0.0019	10	0.0320	0.0239
22	0.0020	0.0015	14	0.0142	0.0025	12	0.0267	0.0184
24	0.0005	0.0020	16	0.0123	0.0010	14	0.0223	0.0196
30	0.0011	0.0005	18	0.0065	0.0045	16	0.0188	0.0158
35	0.0016	0.0005	20	0.0020	0.0020	18	0.0120	0.0156
40	0.0017	0.0005	22	0.0087	0.0020	20	0.0117	0.0109
45	0.0022	0.0012	24	0.0083	0.0015	22	0.0123	0.0112
50	0.0012	0.0018	30	0.0038	0.0021	24	0.0072	0.0072
55	0.0013	0.0024	35	0.0028	0.0005	30	0.0038	0.0032
60	0.0018	0.0006	40	0.0012	0.0012	35	0.0028	0.0039
65	0.0019	0.0025	45	0.0029	0.0005	40	0.0017	0.0040
70	0.0013	0.0025	50	0.0012	0.0012	45	0.0000	0.0022
75	0.0034	0.0034	55	0.0000	0.0000	50	0.0012	0.0012
80	0.0014	0.0000	60	0.0018	0.0006	55	0.0000	----
85	0.0006	0.0021	65	0.0032	0.0013	60	0.0013	0.0013
90	0.0006	0.0000	70	0.0000	0.0072	65	0.0013	0.0013
95	0.0021	0.0028	75	0.0006	0.0020	70	0.0019	0.0019
100	0.0015	----	80	0.0014	0.0006	75	0.0020	0.0000
			85	0.0014	0.0000	80	0.0006	0.0026
			90	0.0015	0.0015	85	0.0000	0.0014
			95	0.0021	0.0021	90	0.0006	0.0000
			100	0.0022	0.0015	95	0.0007	0.0036
						100	0.0015	0.0007
Hudson River, Mile -12			Hudson River, Mile -4			Hudson River, Mile 4		
6	0.0010	0.0000	4	0.0339	0.0091	2	0.0421	0.0967
8	0.0004	0.0004	6	0.0358	0.0219	4	0.0549	0.0759
10	0.0014	----	8	0.0316	0.0193	6	0.0422	0.0516
12	0.0000	0.0004	10	0.0258	0.0171	8	0.0405	0.0425
14	0.0000	0.0004	12	0.0204	0.0135	10	0.0354	0.0358
16	0.0000	0.0010	14	0.0176	0.0132	12	0.0242	0.0281
18	0.0010	0.0015	16	0.0154	0.0129	14	0.0215	0.0264
20	0.0015	0.0015	18	0.0140	0.0050	16	0.0169	0.0242
22	0.0011	0.0020	20	0.0122	0.0066	18	0.0150	0.0171
24	0.0011	0.0005	22	0.0102	0.0067	20	0.0162	0.0152
30	0.0016	0.0016	24	0.0072	0.0052	22	0.0112	0.0112
35	0.0011	0.0011	30	0.0113	0.0086	24	0.0103	0.0103
40	0.0022	0.0017	35	0.0077	0.0016	30	0.0032	0.0043
45	0.0005	0.0005	40	0.0040	0.0017	35	0.0039	0.0039
50	0.0000	0.0000	45	0.0029	0.0041	40	0.0005	0.0022
55	0.0006	0.0000	50	0.0030	0.0030	45	0.0012	0.0017
60	0.0000	0.0006	55	0.0036	0.0006	50	0.0005	0.0005
65	0.0013	0.0000	60	0.0018	0.0024	55	----	0.0043
70	0.0013	0.0006	65	0.0000	0.0057	60	0.0018	0.0006
75	0.0006	0.0020	70	0.0006	0.0000	65	0.0025	0.0006
80	0.0014	0.0006	75	0.0034	0.0000	70	0.0000	0.0006
85	0.0000	0.0014	80	0.0014	0.0014	75	0.0000	0.0020
90	0.0021	0.0015	85	0.0021	0.0021	80	0.0034	0.0020
95	0.0021	0.0036	90	0.0000	0.0006	85	0.0035	0.0027
100	0.0000	0.0022	95	0.0015	0.0021	90	0.0015	0.0028
			100	0.0022	0.0000	95	0.0021	0.0028
						100	0.0000	0.0000

(Continued)

(1 of 4 sheets)

Table 16 (Continued)

Cycle	Surface	Bottom	Cycle	Surface	Bottom	Cycle	Surface	Bottom
<u>Hudson River, Mile 8</u>			<u>Hudson River, Mile 16</u>			<u>Hudson River, Mile 23</u>		
2	0.0287	0.0735	2	0.0004	0.0098	10	0.0024	0.0043
4	0.0293	0.0668	4	0.0014	0.0054	12	0.0034	0.0043
6	0.0358	0.0510	6	0.0092	0.0149	14	0.0049	0.0044
8	0.0363	0.0439	8	0.0165	0.0193	16	----	----
10	0.0330	0.0292	10	0.0187	0.0153	18	0.0050	0.0025
12	0.0242	0.0275	12	0.0150	0.0169	20	0.0036	0.0036
14	0.0245	0.0239	14	0.0128	0.0186	22	0.0030	0.0046
16	0.0198	0.0217	16	0.0158	0.0183	24	0.0026	0.0031
18	0.0171	0.0180	18	0.0140	0.0165	30	0.0032	0.0032
20	0.0173	0.0162	20	0.0132	0.0152	35	0.0011	0.0005
22	0.0118	0.0138	22	0.0108	0.0102	40	0.0012	0.0012
24	0.0088	0.0098	24	0.0078	0.0072	45	0.0005	0.0012
30	0.0059	0.0054	30	0.0075	0.0070	50	0.0012	0.0030
35	0.0033	0.0049	35	0.0028	0.0028	55	0.0000	0.0000
40	0.0012	0.0017	40	0.0028	0.0000	60	0.0018	0.0018
45	0.0017	0.0022	45	0.0012	0.0022	65	0.0006	0.0019
50	0.0012	0.0005	50	0.0012	0.0018	70	0.0000	0.0000
55	0.0000	0.0031	55	0.0043	0.0018	100	0.0015	0.0000
60	0.0006	0.0018	60	0.0006	0.0024			
65	0.0013	0.0051	65	0.0025	0.0025			
70	0.0025	0.0019	70	0.0013	0.0019			
75	0.0006	0.0026	75	0.0014	0.0014			
80	0.0006	0.0006	80	0.0014	0.0020			
85	0.0021	0.0014	85	0.0027	0.0041			
90	0.0021	0.0021	90	0.0078	0.0028			
95	0.0000	0.0007	95	0.0021	0.0036			
100	0.0044	0.0015	100	0.0015	0.0015			
<u>Hudson River, Mile 12</u>			<u>Hudson River, Mile 20</u>					
2	0.0004	0.0000	6	0.0010	0.0047			
4	0.0270	0.0375	8	0.0033	0.0061			
6	0.0307	0.0348	10	0.0028	0.0076			
8	0.0373	0.0405	12	0.0049	0.0077			
10	0.0324	0.0358	14	0.0039	0.0088			
12	0.0204	0.0261	16	0.0050	0.0098			
14	0.0215	0.0235	18	0.0040	0.0080			
16	0.0169	0.0188	20	0.0025	0.0066			
18	0.0215	0.0215	22	0.0041	0.0082			
20	0.0005	0.0137	24	0.0031	0.0037			
22	0.0102	0.0169	30	0.0021	0.0048			
24	0.0120	0.0098	35	0.0021	0.0033			
30	0.0081	0.0075	40	0.0022	0.0050			
35	0.0039	0.0044	45	0.0017	0.0022			
40	0.0057	0.0050	50	0.0018	0.0005			
45	0.0029	0.0017	55	0.0013	0.0018			
50	0.0000	0.0023	60	0.0006	0.0024			
55	0.0018	0.0000	65	0.0006	0.0006			
60	0.0024	0.0013	70	0.0000	----			
65	0.0006	0.0019	75	0.0000	0.0014			
70	0.0013	0.0006	80	0.0014	0.0006			
75	0.0026	0.0040	100	----	0.0007			
80	0.0026	0.0040						
85	0.0027	0.0027						
90	0.0028	0.0006						
95	0.0015	0.0028						
100	0.0044	0.0029						

(Continued)

(2 of 4 sheets)

Table 16 (Continued)

Cycle	Middepth	Cycle	Middepth	Cycle	Middepth	Cycle	Middepth	Cycle	Middepth
Lower Bay Station 8A		East River Mile 2		East River Mile 12		Harlem River Mile 3		Passaic River Mile 2	
4	0.0046	3	0.0860	3	0.1077	3	0.0335	5	0.0004
6	0.0232	5	0.0650	5	0.0497	5	0.0663	7	0.0014
8	0.0132	7	0.0520	7	0.0272	7	0.0126	9	0.0052
10	0.0119	9	0.0408	9	0.0186	9	0.0090	11	0.0063
12	0.0067	11	0.0351	11	0.0134	11	0.0125	13	0.0078
14	0.0093	13	0.0277	13	0.0117	13	0.0063	15	0.0104
16	0.0084	15	0.0192	15	0.0098	15	0.0035	17	0.0109
18	0.0095	17	0.0184	17	0.0084	17	0.0044	19	0.0091
20	0.0056	19	0.0161	19	0.0066	19	0.0045	21	0.0112
22	0.0046	21	0.0127	21	0.0071	21	0.0026	23	0.0108
24	----	23	0.0102	23	0.0046	23	0.0072	25	0.0104
30	0.0038	25	0.0073	25	----	25	0.0046	31	0.0075
35	0.0028	31	0.0059	31	0.0000	31	0.0032	36	0.0066
40	0.0022	36	0.0033	36	0.0000	36	0.0033	41	0.0051
45	0.0012	41	0.0017	41	0.0017	41	0.0040	46	0.0047
50	0.0000	46	0.0005	46	0.0000	46	0.0017	51	0.0042
55	0.0006	51	0.0012	51	0.0000	51	0.0018	56	0.0018
60	0.0018	56	0.0000	56	0.0000	56	0.0000	61	0.0044
65	0.0019	61	0.0013	61	----	61	0.0006	66	0.0038
70	0.0000	66	0.0013	66	0.0025	66	0.0013	71	0.0033
75	0.0014	71	0.0025	71	0.0000	71	0.0025	76	0.0034
80	0.0000	76	0.0020	76	0.0006	76	----	81	0.0020
85	0.0014	81	0.0014	81	0.0020	81	0.0014	86	0.0014
90	0.0021	86	0.0024	86	----	86	0.0000	91	0.0042
95	0.0028	91	0.0028	91	0.0021	91	0.0000	96	0.0036
100	0.0015	96	0.0022	96	0.0022	96	0.0000	101	0.0022
		101	0.0000	101	0.0029	101	0.0022		
Lower Bay Station 9A		East River Mile 7		East River Mile 17		Hackensack River Mile 2		Newark Bay Mile 2	
4	0.0064	3	0.1064	3	0.0050	5	0.0027	3	0.0036
6	0.0199	5	0.0710	5	0.0051	7	0.0061	5	0.0000
8	0.0207	7	0.0528	7	----	9	0.0100	7	0.0211
10	0.0191	9	0.0465	9	0.0024	11	0.0120	9	0.0190
12	0.0131	11	0.0370	11	----	13	0.0146	11	0.0197
14	0.0153	13	0.0287	13	0.0019	15	0.0128	13	0.0185
16	0.0129	15	0.0226	15	0.0000	17	0.0109	15	0.0168
18	0.0100	17	0.0184	17	0.0010	19	0.0140	17	0.0170
20	----	19	0.0171	19	0.0000	21	0.0127	19	0.0157
22	0.0082	21	0.0137	21	0.0020	23	0.0139	21	0.0127
24	0.0052	23	0.0113	23	----	25	----	23	0.0160
30	0.0043	25	0.0073	25	0.0000	31	0.0134	25	0.0114
35	0.0039	31	0.0054	31	0.0000	36	0.0116	31	0.0054
40	0.0022	36	0.0033	36	0.0000	41	0.0074	36	----
45	0.0000	41	0.0017	41	0.0000	46	----	41	0.0051
50	0.0000	46	0.0017	46	0.0000	51	0.0048	46	0.0029
55	0.0000	51	0.0005	51	0.0000	56	0.0054	51	0.0030
60	0.0006	56	0.0000	56	0.0000	61	0.0024	56	0.0024
65	0.0006	61	0.0037	61	0.0000	66	0.0019	61	0.0024
70	0.0025	66	0.0000	66	----	71	0.0039	66	0.0057
75	0.0006	71	0.0006	71	----	76	0.0054	71	0.0039
80	0.0014	76	0.0014	76	----	81	0.0014	76	0.0026
85	0.0006	81	0.0027	81	0.0014	86	0.0027	81	0.0027
90	0.0015	86	0.0035	86	0.0014	91	0.0028	86	0.0056
95	0.0021	91	0.0015	91	0.0028	96	0.0028	91	0.0007
100	0.0015	96	0.0022	96	0.0022	101	0.0007	96	0.0036
		101	0.0015	101	0.0015			101	0.0022

(Continued)

(3 of 4 sheets)

Table 16 (Concluded)

Cycle	Mid-depth	Cycle	Mid-depth	Cycle	Mid-depth	Cycle	Mid-depth	River and Station	50 Cycles Middepth	100 Cycles Middepth
Kill Van Kull Mile 3		Raritan River Channel Mile 35		Chapel Hill Channel Mile 46		Jamaica Bay Station J-2		Additional Stations		
3	0.0648	12	0.0126	12	0.0112	4	0.0032	Kill Van Kull		
5	0.0617	14	0.0097	14	0.0117	6	0.0037	Mile 2	0.0018	0.0022
7	0.0467	16	0.0109	16	0.0104	8	0.0052	Mile 4	0.0018	0.0037
9	0.0328	18	0.0070	18	0.0131	10	0.0028	Arthur Kill		
11	0.0284	20	0.0051	20	0.0086	12	0.0024	Mile 6	0.0030	0.0015
13	0.0287	22	0.0077	22	0.0071	14	0.0019	Mile 8	0.0005	0.0000
15	0.0212	24	0.0052	24	0.0057	16	0.0019	Mile 10	0.0023	0.0007
17	0.0179	30	0.0043	30	0.0043	18	0.0030	Mile 12	0.0018	0.0007
19	0.0146	35	0.0028	35	0.0049	20	0.0020	Mile 14	0.0018	0.0015
21	0.0133	40	0.0005	40	0.0017	22	0.0005	Mile 16	0.0005	0.0029
23	0.0108	45	0.0005	45	0.0017	24	0.0011	Mile 18	0.0023	0.0022
25	0.0099	50	0.0012	50	0.0023	30	0.0005	Raritan River Channel		
31	0.0054	55	0.0013	55	0.0018	35	0.0021	Mile 20	0.0000	0.0015
36	0.0049	60	0.0018	60	0.0037	40	0.0012	Mile 21	0.0023	0.0037
41	0.0029	65	0.0025	65	0.0013	45	0.0012	Mile 22	0.0012	0.0044
46	0.0012	70	0.0025	70	0.0033	50	0.0000	Mile 24	0.0000	0.0000
51	0.0012	75	----	75	0.0020	55	0.0018	Mile 28	0.0030	0.0000
56	0.0018	80	0.0034	80	0.0026	60	0.0006	Mile 30	0.0042	0.0022
61	0.0044	85	0.0014	85	0.0049	65	0.0006	Mile 32	0.0023	0.0022
66	0.0019	90	0.0028	90	0.0000	70	0.0019	Mile 34	0.0005	0.0000
71	0.0000	95	----	95	0.0007	75	0.0026	Mile 36	0.0012	0.0022
76	0.0040	100	0.0000	100	0.0007	80	0.0020	Mile 37	0.0023	0.0022
81	0.0020					85	0.0006	Mile 38	0.0018	0.0029
86	0.0021					90	0.0000	Mile 39	0.0035	0.0022
91	0.0015					95	0.0028	Mile 40	0.0030	0.0037
96	0.0022					100	0.0000	Mile 42	0.0012	0.0022
101	0.0015							Mile 44	0.0005	0.0007
								Mile 45	0.0005	0.0007
Arthur Kill Mile 7		Raritan River Channel Mile 41		Jamaica Bay Station J-1		Chapel Hill Channel				
5	0.0000	12	0.0024	4	0.0014	Mile 48				
7	0.0018	14	0.0074	6	0.0033	Mile 50				
9	0.0024	16	0.0050	8	0.0014	Hudson River				
11	0.0057	18	0.0045	10	0.0019	-18 surface				
13	0.0043	20	0.0071	12	0.0019	-18 bottom				
15	0.0054	22	0.0052	14	0.0029	Headbay				
17	0.0044	24	0.0037	16	0.0035	A				
19	0.0040	30	0.0048	18	0.0035	B				
21	0.0041	35	0.0028	20	0.0015	C				
23	0.0067	40	0.0045	22	0.0015					
25	0.0046	45	0.0005	24	0.0015					
31	0.0027	50	0.0000	30	0.0027					
36	0.0028	55	0.0013	35	0.0033					
41	0.0057	60	0.0013	40	0.0022					
46	0.0023	65	0.0000	45	0.0022					
51	0.0018	70	0.0019	50	0.0000					
56	0.0031	75	0.0006	55	0.0031					
61	0.0019	80	0.0014	60	0.0018					
66	0.0013	85	0.0014	65	0.0000					
71	0.0033	90	0.0006	70	0.0019					
76	0.0026	95	0.0007	75	0.0020					
81	0.0014	100	0.0037	80	0.0006					
86	0.0035			85	0.0014					
91	0.0021			90	0.0006					
96	0.0015			95	0.0006					
101	0.0015			100	0.0022					

Table 17

## Observed Dye Concentrations at High-Water Slack in Per Cent of Initial Concentration, Test 6

Cycle	Surface	Bottom	Cycle	Surface	Bottom	Cycle	Surface	Bottom
<u>Hudson River, Mile -16</u>			<u>Hudson River, Mile -8</u>			<u>Hudson River, Mile 0</u>		
12	0.0000	0.0000	2	0.0000	0.0000	2	0.1067	0.0412
14	0.0015	0.0000	4	0.0347	0.0041	4	0.0786	0.0608
16	0.0000	0.0010	6	0.0055	0.0041	6	0.0543	0.0501
18	0.0000	0.0000	8	0.0103	0.0033	8	0.0415	0.0439
20	0.0000	0.0025	10	0.0086	0.0043	10	0.0282	0.0272
22	0.0000	0.0000	12	0.0043	0.0019	12	0.0189	0.0237
24	0.0005	0.0005	14	0.0039	0.0035	14	0.0171	0.0161
30	0.0005	0.0000	16	0.0054	0.0040	16	0.0158	0.0163
35	0.0000	0.0005	18	0.0005	0.0005	18	0.0120	0.0110
40	0.0012	0.0012	20	0.0025	0.0015	20	0.0117	0.0091
45	0.0000	0.0000	22	0.0011	----	22	0.0067	0.0077
50	0.0000	0.0000	24	0.0015	0.0031	24	0.0062	0.0078
55	0.0018	0.0024	30	0.0005	0.0005	30	0.0032	0.0021
60	0.0031	0.0031	35	0.0021	0.0005	35	0.0011	0.0028
65	0.0025	0.0019	40	0.0005	0.0005	40	0.0012	0.0034
70	0.0000	0.0006	45	0.0005	0.0005	45	0.0000	0.0000
75	0.0006	0.0020	50	0.0012	0.0000	50	0.0000	0.0000
80	0.0000	0.0000	55	0.0006	0.0013	55	0.0018	0.0031
85	0.0014	0.0014	60	0.0000	0.0006	60	0.0018	0.0006
90	0.0021	0.0006	65	0.0032	0.0013	65	0.0013	0.0019
95	0.0007	0.0021	70	0.0006	0.0006	70	0.0000	0.0000
100	0.0000	0.0000	75	0.0014	0.0020	75	0.0014	0.0020
			80	0.0000	0.0000	80	0.0026	0.0026
			85	0.0021	0.0014	85	0.0014	0.0021
			90	0.0021	0.0021	90	0.0015	0.0015
			95	0.0015	0.0007	95	0.0021	0.0028
			100	0.0000	0.0000	100	0.0015	0.0007
<u>Hudson River, Mile -12</u>			<u>Hudson River, Mile -4</u>			<u>Hudson River, Mile 4</u>		
8	0.0014	0.0004	2	0.0350	0.0045	2	0.1632	0.1771
10	0.0014	0.0000	4	0.0622	0.0270	4	0.0379	0.0772
12	0.0010	0.0019	6	0.0516	0.0358	6	0.0427	0.0516
14	0.0004	0.0010	8	0.0425	0.0274	8	0.0377	0.0373
16	0.0010	0.0019	10	0.0215	0.0324	10	0.0301	0.0282
18	0.0000	0.0000	12	0.0222	0.0165	12	0.0290	0.0320
20	0.0020	0.0005	14	0.0220	0.0142	14	0.0196	0.0196
22	0.0005	0.0000	16	0.0163	0.0114	16	0.0203	0.0144
24	0.0005	0.0011	18	0.0140	0.0100	18	0.0131	0.0110
30	0.0011	0.0000	20	0.0117	0.0076	20	0.0107	0.0086
35	0.0005	0.0005	22	0.0093	0.0067	22	0.0087	0.0077
40	0.0005	0.0017	24	0.0067	0.0062	24	0.0088	0.0078
45	0.0000	0.0000	30	0.0059	0.0038	30	0.0032	0.0021
50	0.0000	0.0012	35	0.0044	0.0039	35	0.0021	0.0016
55	0.0000	0.0043	40	0.0045	0.0012	40	0.0000	0.0000
60	0.0024	0.0018	45	0.0000	0.0017	45	0.0005	0.0000
65	0.0019	0.0025	50	0.0005	0.0042	50	0.0005	0.0000
70	0.0006	0.0006	55	0.0018	0.0018	55	0.0013	0.0000
75	0.0006	0.0020	60	0.0018	0.0013	60	0.0018	0.0024
80	0.0000	0.0006	65	0.0032	0.0019	65	0.0013	0.0006
85	0.0000	0.0014	70	0.0013	0.0025	70	0.0006	0.0006
90	0.0015	0.0021	75	0.0020	0.0020	75	0.0014	0.0020
95	0.0000	0.0000	80	0.0006	0.0014	80	0.0006	0.0020
100	0.0000	0.0000	85	0.0000	0.0021	85	0.0006	0.0014
			90	0.0015	0.0015	90	0.0000	0.0000
			95	0.0021	0.0015	95	0.0007	0.0007
			100	0.0015	0.0015	100	0.0007	0.0015

(Continued)

(1 of 4 sheets)



Table 17 (Continued)

Cycle	Surface	Bottom	Cycle	Surface	Bottom	Cycle	Middepth	Cycle	Middepth
Hudson River Mile 8			Hudson River Mile 16			East River Mile 2		East River Mile 12	
2	0.0870	0.1005	6	0.0033	0.0088	3	0.0765	3	0.0294
4	0.0713	0.0676	8	0.0109	0.0137	5	0.0636	5	0.0161
6	0.0320	0.0510	10	0.0095	0.0171	7	0.0435	7	0.0108
8	0.0373	0.0425	12	0.0112	0.0140	9	0.0370	9	0.0110
10	0.0306	0.0354	14	0.0078	0.0152	11	0.0259	11	0.0057
12	0.0247	0.0237	16	0.0114	0.0098	13	0.0234	13	0.0063
14	0.0200	0.0220	18	0.0085	0.0131	15	0.0158	15	0.0064
16	0.0154	0.0163	20	0.0081	0.0107	17	0.0164	17	0.0019
18	0.0160	0.0140	22	0.0118	0.0097	19	0.0106	19	0.0020
20	0.0107	0.0122	24	0.0046	0.0041	21	0.0107	21	0.0015
22	0.0112	0.0112	30	0.0048	0.0043	23	0.0087	23	0.0011
24	0.0103	0.0083	35	0.0060	0.0028	25	0.0042	25	0.0011
30	0.0059	0.0059	40	0.0012	0.0012	31	0.0011	31	0.0000
35	0.0109	0.0028	45	0.0005	0.0000	36	0.0028	36	0.0000
40	0.0022	0.0022	50	0.0018	0.0000	41	0.0017	41	0.0000
45	0.0005	0.0000				46	0.0000	46	0.0005
50	0.0012	0.0012				51	0.0012	51	0.0023
55	0.0018	0.0031				56	0.0018	56	0.0054
60	0.0013	0.0006				61	0.0013	61	0.0006
65	0.0019	0.0025				66	0.0013	66	0.0025
70	0.0025	0.0019				71	0.0019	71	0.0000
75	0.0020	0.0026				76	0.0020	76	0.0020
80	0.0006	0.0006				81	0.0020	81	0.0014
85	0.0021	0.0006				86	0.0021	86	0.0014
90	0.0015	0.0015				91	0.0021	91	0.0021
95	0.0021	0.0028				96	0.0015	96	0.0028
100	0.0000	0.0007				101	0.0007	101	0.0000
Hudson River Mile 12			Hudson River Mile 20			East River Mile 7		East River Mile 17	
2	0.0112	0.0161	12	0.0039	0.0077	3	0.0865	3	0.0000
4	0.0064	0.0173	14	0.0039	0.0083	5	0.0594	5	0.0018
6	0.0283	0.0352	16	0.0040	0.0054	7	0.0435	7	0.0010
8	0.0335	0.0302	18	0.0055	0.0080	9	0.0328	9	0.0004
10	0.0292	0.0306	20	0.0036	0.0051	11	0.0284	11	0.0014
12	0.0208	0.0257	22	0.0030	0.0046	13	0.0195	13	0.0014
14	0.0206	0.0231	24	0.0037	0.0062	15	0.0147	15	0.0000
16	0.0188	0.0169	30	0.0016	0.0000	17	0.0155	17	0.0019
18	0.0150	0.0175	35	0.0016	0.0034	19	0.0040	19	0.0010
20	0.0126	0.0126	40	0.0028	0.0040	21	0.0101	21	0.0000
22	0.0087	0.0118	45	0.0012	0.0012	23	0.0078	23	0.0000
24	0.0094	0.0109	50	0.0000	0.0012	25	0.0083	25	0.0011
30	0.0070	0.0059				31	0.0064	31	0.0000
35	0.0005	0.0049				36	0.0056	36	0.0000
40	0.0028	0.0057				41	0.0005	41	0.0000
45	0.0017	0.0012				46	0.0017	61	0.0006
50	0.0035	0.0012				51	0.0005	66	0.0006
55	0.0018	0.0018				56	0.0024	71	0.0000
60	0.0018	0.0024				61	0.0000	76	0.0014
65	0.0013	0.0006				66	0.0013	81	0.0014
70	0.0013	0.0013				71	0.0000	86	0.0000
75	0.0020	0.0034				76	0.0020	91	0.0015
80	0.0000	0.0006				81	0.0000	96	0.0000
85	0.0021	0.0006				86	0.0021	101	0.0000
90	0.0021	0.0021				91	0.0007		
95	0.0021	0.0021				96	0.0015		
100	0.0022	0.0015				101	0.0007		

(Continued)

(2 of 4 sheets)

Table 17 (Continued)

Cycle	Middepth	Cycle	Middepth	Cycle	Middepth	Cycle	Middepth	Cycle	Middepth
Harlem River Mile 3		Passaic River Mile 2		Kill Van Kull Mile 3		Raritan River Channel, Mile 35		Chapel Hill Channel, Mile 46	
3	0.0000	3	0.0009	3	0.0919	6	0.0172	6	0.0065
5	0.0175	5	0.0078	5	0.0704	8	0.0231	8	0.0132
7	0.0098	7	0.0047	7	0.0463	10	0.0163	10	0.0110
9	0.0086	9	0.0090	9	0.0380	12	0.0126	12	0.0159
11	0.0048	11	0.0120	11	0.0312	14	0.0103	14	0.0117
13	0.0078	13	0.0151	13	0.0244	16	0.0089	16	0.0094
15	0.0079	15	0.0172	15	0.0192	18	0.0076	18	0.0100
17	0.0059	17	0.0155	17	0.0149	20	0.0045	20	0.0056
19	0.0066	19	0.0151	19	0.0131	22	0.0041	22	0.0061
21	0.0036	21	0.0142	21	0.0122	24	0.0037	24	0.0062
23	0.0041	23	0.0139	23	0.0113	30	0.0021	30	0.0021
25	0.0042	25	0.0110	25	0.0088	35	0.0005	35	0.0021
31	0.0005	31	0.0064	31	0.0048	40	0.0022	40	0.0005
36	0.0011	36	0.0039	36	0.0033	45	0.0000	45	0.0000
41	0.0022	41	0.0029	41	0.0000	50	0.0012	50	0.0005
46	0.0012	46	0.0041	46	0.0000	55	0.0036	55	0.0013
51	0.0023	51	0.0042	51	0.0000	60	0.0013	60	0.0024
56	0.0031	56	0.0098	56	0.0006	65	0.0000	65	0.0013
61	0.0013	61	0.0074	61	0.0013	70	0.0006	70	0.0013
66	0.0013	66	0.0083	66	0.0025	75	0.0006	75	0.0000
71	0.0000	71	0.0066	71	0.0013	80	0.0014	80	0.0006
76	0.0006	76	0.0067	76	0.0026	85	0.0035	85	0.0006
81	0.0006	81	0.0136	81	0.0006	90	0.0015	90	0.0015
86	0.0006	86	0.0021	86	0.0000	95	0.0021	95	0.0015
91	0.0028	91	0.0015	91	0.0000	100	0.0007	100	0.0007
96	0.0022	96	0.0028	96	0.0028				
101	0.0007	101	0.0015	101	0.0000				
Hackensack River Mile 2		Newark Bay Mile 2		Arthur Kill Mile 7		Raritan River Channel, Mile 41		Jamaica Bay Station J-1	
3	0.0009	3	0.0313	3	0.0000	8	0.0103	6	0.0004
5	0.0060	5	0.0225	5	0.0000	10	0.0129	8	0.0018
7	0.0122	7	0.0317	7	0.0000	12	0.0102	10	0.0043
9	0.0170	9	0.0322	9	0.0042	14	0.0093	12	0.0073
11	0.0158	11	0.0308	11	0.0024	16	0.0059	14	0.0025
13	0.0160	13	0.0190	13	0.0024	18	0.0080	16	0.0065
15	0.0147	15	0.0177	15	0.0010	20	0.0041	18	0.0025
17	0.0164	17	0.0139	17	0.0015	22	0.0030	20	0.0025
19	0.0125	19	0.0140	19	0.0000	24	0.0057	22	0.0020
21	0.0118	21	0.0148	21	0.0026	30	0.0016	24	----
23	0.0154	23	0.0098	23	0.0015	35	0.0005	30	0.0016
25	0.0099	25	0.0083	25	0.0046	40	0.0012	35	0.0021
31	0.0059	31	0.0048	31	0.0005	45	0.0005	40	0.0028
36	0.0033	36	0.0033	36	0.0000	50	0.0000	45	0.0017
41	0.0012	41	0.0005	41	0.0005	55	0.0024	50	0.0018
46	0.0017	46	0.0017	46	0.0005	60	0.0000	55	0.0013
51	0.0023	51	0.0000	51	0.0000	65	0.0013	60	0.0006
56	0.0031	56	0.0061	56	0.0013	70	0.0006	65	0.0019
61	0.0006	61	0.0044	61	0.0013	75	0.0000	70	0.0000
66	0.0019	66	0.0000	66	0.0019	80	0.0014	75	0.0014
71	0.0006	71	0.0000	71	0.0019	85	0.0000	80	0.0006
76	0.0014	76	0.0006	76	0.0020	90	0.0000	85	0.0021
81	0.0006	81	0.0014	81	0.0014	95	0.0021	90	0.0000
86	0.0014	86	0.0049	86	0.0021	100	0.0007	95	0.0015
91	0.0007	91	0.0015	91	0.0015			100	0.0000
96	0.0028	96	0.0015	96	0.0007				
101	0.0022	101	0.0000	101	0.0000				

(Continued)

(3 of 4 sheets)

Table 17 (Concluded)

<u>Cycle</u>	<u>Middepth</u>	<u>Cycle</u>	<u>Middepth</u>	<u>Cycle</u>	<u>Middepth</u>	<u>River and Station</u>	<u>50 Cycles</u> <u>Middepth</u>	<u>100 Cycles</u> <u>Middepth</u>
<u>Jamaica Bay</u> <u>Station J-2</u>		<u>Lower Bay</u> <u>Station 8A</u>		<u>Lower Bay</u> <u>Station 9A</u>		<u>Additional Stations</u>		
6	0.0018	4	0.0041	4	0.0160	Kill Van Kull		
8	0.0024	6	0.0186	6	0.0381	Mile 2	0.0012	0.0015
10	0.0057	8	0.0113	8	0.0326	Mile 4	0.0030	0.0007
12	0.0034	10	0.0187	10	0.0277	Arthur Kill		
14	0.0049	12	0.0092	12	0.0218	Mile 6	0.0012	0.0000
16	0.0050	14	0.0058	14	0.0161	Mile 8	0.0030	0.0015
18	0.0030	16	0.0079	16	0.0146	Mile 10	0.0005	0.0000
20	0.0020	18	0.0060	18	0.0116	Mile 12	0.0018	0.0000
22	0.0015	20	0.0051	20	0.0091	Mile 14	0.0030	0.0007
24	0.0015	22	0.0020	22	0.0082	Mile 16	0.0012	0.0000
30	0.0016	24	0.0031	24	0.0052	Mile 18	0.0035	0.0000
35	-----	30	0.0043	30	0.0043	Raritan River Channel		
40	0.0000	35	0.0016	35	0.0011	Mile 20	0.0042	0.0000
45	0.0000	40	0.0017	40	0.0022	Mile 21	0.0018	0.0000
50	0.0005	45	0.0005	45	0.0017	Mile 22	0.0000	0.0007
55	0.0018	50	0.0000	50	0.0000	Mile 24	0.0000	0.0000
60	0.0018	55	0.0024	55	0.0006	Mile 28	0.0012	0.0015
65	0.0006	60	0.0006	60	0.0018	Mile 30	0.0012	0.0015
70	0.0006	65	0.0019	65	0.0019	Mile 32	0.0012	0.0015
75	0.0006	70	0.0013	70	0.0033	Mile 34	0.0030	0.0000
80	0.0014	75	0.0026	75	0.0026	Mile 36	0.0000	0.0000
85	0.0014	80	0.0026	80	0.0014	Mile 37	0.0018	0.0007
90	0.0006	85	0.0021	85	0.0014	Mile 38	0.0018	0.0000
95	0.0028	90	0.0006	90	0.0015	Mile 39	0.0030	0.0000
100	0.0000	95	0.0015	95	0.0015	Mile 40	0.0018	0.0000
		100	0.0007	100	0.0000	Mile 42	0.0000	0.0000
						Mile 44	0.0000	0.0000
						Mile 45	0.0000	0.0000
						Chapel Hill Channel		
						Mile 48	0.0012	0.0000
						Mile 50	0.0023	0.0000
						Hudson River		
						-18 surface	0.0005	0.0022
						-18 bottom	0.0000	0.0022
						Headbay		
						A	----	0.0000
						B	----	0.0000
						C	----	0.0000

Table 18

Observed Dye Concentrations at High-Water Slack in Per Cent of Initial Concentration, Test 7

Cycle	Surface	Bottom	Cycle	Surface	Bottom	Cycle	Surface	Bottom
<u>Hudson River, Mile -18</u>			<u>Hudson River, Mile -12</u>			<u>Hudson River, Mile -4</u>		
0	0.0000	0.0000	0	0.0000	0.0000	0	0.0000	0.0000
8	0.0014	0.0028	4	0.0023	0.0009	2	0.0744	0.0017
10	0.0000	0.0014	6	0.0000	0.0004	4	0.0366	0.0187
12	0.0014	0.0014	8	0.0000	0.0014	6	0.0320	0.0181
14	0.0015	0.0019	10	0.0000	0.0019	8	0.0207	0.0161
16	0.0015	0.0015	12	0.0019	0.0019	10	0.0195	0.0119
18	0.0000	0.0010	14	0.0029	0.0019	12	0.0204	0.0092
20	0.0020	0.0000	16	0.0000	0.0015	14	0.0162	0.0113
22	0.0061	0.0026	18	0.0015	0.0015	16	0.0114	0.0054
24	0.0000	0.0011	20	0.0000	0.0020	18	0.0131	0.0076
30	0.0005	0.0016	22	0.0011	0.0030	20	0.0000	0.0045
35	0.0021	0.0055	24	0.0000	0.0011	22	0.0026	0.0067
40	0.0017	0.0017	30	0.0005	0.0000	24	0.0062	0.0062
45	0.0005	0.0022	35	0.0049	----	30	0.0048	0.0048
50	0.0018	0.0000	40	0.0022	0.0017	35	0.0011	0.0088
55	0.0036	0.0013	45	0.0022	0.0017	40	0.0045	0.0028
60	0.0000	0.0018	50	0.0000	0.0023	45	0.0046	0.0034
65	0.0006	0.0006	55	0.0036	0.0036	50	0.0035	0.0030
70	0.0046	0.0000	60	0.0044	0.0024	55	0.0018	0.0000
75	0.0020	0.0014	65	0.0000	0.0025	60	0.0044	0.0037
80	0.0034	0.0026	70	0.0013	0.0013	65	0.0006	0.0000
85	0.0021	0.0027	75	0.0020	0.0020	70	0.0013	0.0019
90	0.0028	0.0028	80	0.0026	0.0034	75	0.0006	0.0040
95	0.0000	0.0007	85	0.0014	0.0006	80	0.0026	0.0026
100	0.0007	0.0007	90	0.0006	0.0036	85	0.0035	0.0035
			95	0.0015	0.0036	90	0.0006	0.0015
			100	0.0000	0.0022	95	0.0021	0.0021
						100	0.0029	0.0000
<u>Hudson River, Mile -16</u>			<u>Hudson River, Mile -8</u>			<u>Hudson River, Mile 0</u>		
0	0.0000	0.0000	0	0.0000	0.0000	0	0.0000	0.0000
8	0.0000	----	2	0.0000	0.0017	2	0.0551	0.0391
10	0.0004	0.0014	4	0.0018	0.0009	4	0.0110	0.0142
12	0.0000	0.0029	6	0.0033	0.0031	6	0.0144	0.0223
14	0.0015	0.0025	8	0.0118	0.0056	8	0.0147	0.0198
16	----	0.0035	10	0.0052	0.0028	10	0.0086	0.0095
18	0.0030	0.0025	12	0.0043	0.0014	12	0.0063	0.0106
20	0.0005	0.0015	14	0.0019	0.0015	14	0.0058	0.0122
22	0.0011	0.0020	16	0.0079	0.0025	16	0.0054	0.0104
24	0.0037	0.0020	18	0.0019	0.0010	18	0.0055	0.0076
30	0.0011	0.0011	20	0.0010	0.0000	20	0.0045	0.0076
35	0.0000	0.0005	22	0.0056	0.0056	22	0.0056	----
40	0.0000	0.0017	24	0.0037	0.0011	24	0.0031	----
45	0.0012	0.0022	30	0.0032	0.0011	30	0.0027	0.0043
50	0.0012	0.0005	35	0.0016	0.0016	35	0.0028	0.0033
55	0.0024	0.0036	40	0.0005	0.0017	40	0.0022	0.0028
60	0.0037	0.0044	45	0.0005	0.0022	45	0.0017	0.0046
65	0.0013	0.0045	50	0.0023	0.0012	50	0.0000	0.0042
70	0.0006	0.0000	55	0.0013	0.0013	55	0.0031	0.0049
75	0.0000	0.0020	60	0.0031	0.0024	60	0.0000	0.0006
80	0.0014	0.0014	65	0.0000	0.0000	65	0.0019	0.0076
85	0.0041	0.0014	70	0.0025	0.0000	70	0.0025	0.0025
90	0.0000	0.0071	75	0.0006	0.0020	75	0.0020	0.0067
95	0.0007	0.0015	80	0.0006	0.0020	80	0.0000	0.0034
100	0.0029	0.0088	85	0.0021	0.0041	85	0.0027	0.0049
			90	0.0006	0.0000	90	0.0000	0.0006
			95	0.0028	0.0036	95	0.0021	0.0043
			100	0.0029	0.0015	100	0.0015	0.0029

(Continued)

(1 of 5 sheets)

Table 18 (Continued)

Cycle	Surface	Bottom	Cycle	Surface	Bottom	Cycle	Middepth
<u>Hudson River, Mile 4</u>			<u>Hudson River, Mile 12</u>			<u>Lower Bay, Station 8A</u>	
0	0.0000	0.0000	0	0.0000	0.0000	0	0.0000
4	0.0027	0.0054	6	0.0023	0.0028	4	0.0054
6	0.0055	0.0074	8	0.0018	0.0038	6	0.0111
8	0.0085	0.0066	10	0.0019	0.0034	8	0.0099
10	0.0057	0.0081	12	0.0043	0.0049	10	0.0105
12	0.0077	0.0077	14	0.0044	0.0068	12	0.0058
14	0.0054	0.0064	16	0.0054	0.0040	14	0.0107
16	0.0054	0.0040	18	0.0050	0.0050	16	0.0069
18	0.0035	0.0040	20	0.0000	0.0000	18	0.0080
20	0.0045	0.0030	22	0.0020	0.0036	20	0.0045
22	0.0030	0.0036	24	0.0005	0.0005	22	0.0046
24	----	----	30	0.0374	0.0439	24	0.0037
30	----	0.0016	35	0.0088	0.0005	30	0.0032
35	0.0000	0.0028	40	0.0012	0.0022	35	0.0039
40	0.0057	0.0012	45	0.0000	0.0000	40	0.0012
45	0.0012	0.0022	50	0.0012	0.0005	45	0.0000
50	0.0005	0.0018	55	0.0018	0.0000	50	0.0012
55	0.0000	0.0054	60	0.0000	0.0013	55	0.0013
60	0.0013	0.0024	65	0.0006	0.0025	60	0.0018
65	0.0045	0.0025	70	0.0039	0.0006	65	0.0000
70	0.0019	0.0033	75	0.0006	0.0040	70	0.0013
75	0.0026	0.0006	80	0.0014	0.0000	75	0.0014
80	0.0000	0.0020	85	0.0014	0.0041	80	0.0014
85	0.0027	0.0021	90	0.0021	0.0057	85	0.0014
90	0.0021	0.0000	95	0.0021	0.0021	90	0.0006
95	0.0021	0.0036	100	0.0015	0.0029	95	0.0000
100	0.0022	0.0015				100	0.0029
<u>Hudson River, Mile 8</u>			<u>Hudson River, Mile 16</u>			<u>Lower Bay, Station 9A</u>	
0	0.0000	0.0000	14	0.0010	0.0049	0	0.0000
4	0.0014	0.0041	16	0.0000	0.0015	4	0.0274
6	0.0033	0.0084	18	0.0015	0.0045	6	0.0213
8	0.0028	0.0071	20	0.0020	0.0030	8	0.0203
10	0.0043	0.0052	22	0.0005	0.0041	10	0.0187
12	0.0073	0.0063	24	0.0000	0.0000	12	0.0106
14	0.0049	0.0054	30	0.0000	0.0000	14	0.0097
16	0.0050	0.0050	35	0.0000	0.0005	16	0.0123
18	0.0045	0.0045	40	0.0000	0.0022	18	0.0080
20	0.0066	0.0020	45	0.0000	0.0012	20	0.0076
22	0.0020	0.0020	50	0.0000	0.0000	22	0.0077
24	0.0020	0.0031	55	0.0000	0.0013	24	0.0005
30	0.0016	0.0048	60	0.0018	0.0013	30	0.0027
35	0.0021	0.0000	65	0.0000	0.0000	35	0.0016
40	0.0017	0.0005	70	----	0.0000	40	0.0040
45	0.0022	0.0034	75	0.0014	0.0000	45	0.0041
50	0.0000	0.0000	80	0.0000	0.0014	50	0.0023
55	0.0031	0.0018	85	0.0006	0.0014	55	0.0036
60	0.0000	0.0024	90	0.0000	0.0021	60	0.0024
65	0.0000	0.0019	95	0.0000	0.0000	65	0.0013
70	0.0006	0.0013	100	0.0000	0.0022	70	0.0033
75	0.0000	0.0000				75	0.0006
80	0.0006	0.0000				80	0.0000
85	0.0041	0.0000				85	0.0041
90	0.0006	0.0006				90	0.0006
95	0.0000	0.0000				95	0.0015
100	0.0000	0.0000				100	0.0029

(Continued)

(2 of 5 sheets)

Table 18 (Continued)

Cycle	Middepth	Cycle	Middepth	Cycle	Middepth	Cycle	Middepth	Cycle	Middepth
East River Mile 2		East River Mile 12		Arthur Kill Mile 7		Arthur Kill Mile 14		Hackensack River Mile 2	
0	0.0000	7	0.0000	0	0.0000	0	0.0000	0	0.0000
3	0.0036	9	0.0000	3	0.0602	5	0.0000	3	0.3478
5	0.0064	11	0.0024	5	0.0857	7	0.0000	5	0.3349
7	0.0065	13	0.0014	7	0.0879	9	0.0000	7	0.2932
9	0.0072	15	0.0000	9	0.0783	11	0.0029	9	0.2378
11	0.0063	17	0.0015	11	0.0644	13	0.0029	11	0.2302
13	0.0068	19	0.0000	13	0.0584	15	0.0029	13	0.1970
15	0.0050	21	0.0000	15	0.0541	17	0.0030	15	0.1619
17	0.0035	23	0.0005	17	0.0518	19	0.0025	17	0.1409
19	0.0020	25	0.0015	19	0.0428	21	0.0036	19	0.1163
21	0.0036	31	0.0000	21	0.0433	23	0.0037	21	0.0800
23	0.0037	36	----	23	0.0443	25	0.0005	23	0.0814
25	0.0042	41	0.0017	25	0.0318	31	0.0021	25	0.0959
31	0.0027	46	0.0017	31	0.0313	36	0.0011	31	0.0689
36	0.0011	51	0.0000	36	0.0110	41	0.0051	36	0.0453
41	0.0012	56	0.0006	41	0.0153	46	0.0041	41	0.0476
46	0.0012	61	0.0019	46	0.0122	51	0.0030	46	0.0367
51	0.0000	66	0.0000	51	0.0078	56	0.0024	51	0.0251
56	0.0000	71	0.0006	56	0.0054	61	0.0019	56	0.0103
61	0.0013	76	0.0006	61	0.0050	66	0.0013	61	0.0163
66	0.0000	81	0.0027	66	0.0057	71	0.0033	66	0.0192
71	0.0006	86	0.0006	71	0.0046	76	0.0020	71	0.0130
76	0.0020	91	0.0015	76	0.0047	81	0.0014	76	0.0080
81	0.0041	96	0.0007	81	0.0034	86	0.0006	81	0.0081
86	0.0000	101	0.0007	86	0.0035	91	0.0050	86	0.0112
91	0.0000			91	0.0021	96	0.0007	91	0.0042
96	0.0000			96	0.0036	101	0.0007	96	0.0073
101	0.0015			101	0.0000			101	0.0074
East River Mile 7		Kill Van Kull Mile 3		Arthur Kill Mile 10		Arthur Kill Mile 18		Hackensack River Mile 6	
0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000
3	0.0009	3	0.0539	3	0.0000	11	0.0029	3	0.0326
5	0.0033	5	0.0401	5	0.0037	13	0.0000	5	0.0585
7	0.0079	7	0.0313	7	0.0051	15	0.0015	7	0.1225
9	0.0048	9	0.0228	9	0.0090	17	0.0005	9	0.1590
11	0.0038	11	0.0149	11	0.0096	19	0.0005	11	0.1591
13	0.0078	13	0.0141	13	0.0107	21	0.0015	13	0.1454
15	0.0050	15	0.0104	15	0.0143	23	0.0020	15	0.1560
17	0.0055	17	0.0139	17	0.0145	25	0.0015	17	0.1419
19	0.0036	19	0.0106	19	0.0096	31	0.0021	19	0.1319
21	0.0030	21	0.0086	21	0.0137	36	0.0000	21	0.1213
23	0.0015	23	0.0072	23	0.0128	41	0.0045	23	0.0979
25	0.0020	25	0.0079	25	0.0136	46	0.0041	25	0.0886
31	0.0011	31	0.0016	31	0.0091	51	0.0012	31	0.0737
36	0.0000	36	0.0039	36	0.0072	56	0.0024	36	0.0729
41	0.0017	41	0.0022	41	0.0062	61	0.0013	41	0.0527
46	0.0012	46	0.0023	46	0.0064	66	0.0038	46	0.0512
51	0.0023	51	0.0042	51	0.0048	71	0.0033	51	0.0412
56	0.0000	56	0.0000	56	0.0006	76	0.0040	55	0.0372
61	0.0024	61	0.0006	61	0.0031	81	0.0027	61	0.0344
66	0.0000	66	0.0025	66	0.0032	86	0.0014	66	0.0262
71	0.0000	71	0.0000	71	0.0039	91	0.0050	71	0.0242
76	0.0026	76	0.0014	76	0.0034	96	0.0022	76	0.0240
81	0.0034	81	0.0034	81	0.0034	101	0.0000	81	0.0144
86	0.0000	86	0.0049	86	0.0035			86	0.0182
91	0.0000	91	0.0000	91	0.0007			91	0.0156
96	0.0007	96	0.0022	96	0.0015			96	0.0138
101	0.0015	101	0.0000	101	0.0022			101	0.0112

(Continued)

(3 of 5 sheets)

Table 18 (Continued)

Cycle	Middepth	Cycle	Middepth	Cycle	Middepth	Cycle	Middepth	Cycle	Middepth
Hackensack River Mile 10		Passaic River Mile 2		Passaic River Mile 10		Raritan River Channel, Mile 30		Newark Bay Mile 2	
0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000
5	0.0033	3	0.1277	23	0.0330	10	0.0062	3	0.4274
7	0.0089	5	0.1829	25	0.0187	12	0.0067	5	0.906
9	0.0152	7	0.1987	31	0.0275	14	0.0078	7	0.2113
11	0.0308	9	0.2307	36	0.0342	16	0.0084	9	0.1633
13	0.0408	11	0.2082	41	0.0391	18	0.0125	11	0.1259
15	0.0429	13	0.1907	46	0.0284	20	0.0086	13	0.0836
17	0.0612	15	0.1772	51	0.0328	22	0.0067	15	0.0846
19	0.0494	17	0.1598	56	0.0311	24	0.0067	17	0.0772
21	0.0449	19	0.1410	61	0.0169	30	0.0038	19	0.0680
23	0.0634	21	0.1177	66	0.0294	35	0.0055	21	0.0672
25	0.0610	23	0.1108	71	0.0223	40	0.0028	23	0.0356
31	0.0587	25	0.0996	76	0.0301	45	0.0034	25	0.0406
36	0.0514	31	0.0776	81	0.0239	50	0.0012	31	0.0361
41	0.0494	36	0.0663	86	0.0300	55	-----	36	0.0304
46	0.0529	41	0.0494	91	0.0192	60	0.0024	41	0.0187
51	0.0399	46	0.0477	96	0.0153	65	0.0000	46	0.0191
56	0.0287	51	0.0376	101	0.0193	70	0.0019	51	0.0119
61	0.0363	56	0.0170			75	0.0040	56	0.0067
66	0.0301	61	0.0269			80	0.0020	61	0.0063
71	0.0190	66	0.0269			85	0.0035	66	0.0076
76	0.0234	71	0.0190			90	0.0015	71	0.0033
81	0.0178	76	0.0194			95	0.0036	76	0.0047
86	0.0265	81	0.0061			100	0.0022	81	0.0034
91	0.0234	86	0.0153					86	0.0027
96	0.0217	91	0.0085					91	0.0028
101	0.0118	96	0.0086					96	0.0043
		101	0.0088					101	0.0037
Hackensack River Mile 14		Passaic River Mile 6		Raritan River Channel, Mile 21		Raritan River Channel, Mile 35		Chapel Hill Channel, Mile 46	
0	-----	0	0.0000	0	0.0000	0	0.0000	0	0.0000
3	-----	5	0.0188	11	0.0024	4	0.0041	4	0.0009
5	-----	7	0.0191	13	0.0000	6	0.0116	6	0.0074
7	-----	9	0.0314	15	0.0015	8	0.0137	8	0.0099
9	-----	11	0.0409	17	0.0005	10	0.0143	10	0.0115
11	-----	13	0.0579	19	0.0015	12	0.0077	12	0.0102
13	0.0041	15	0.0773	21	0.0051	14	0.0097	14	0.0097
15	0.0074	17	0.0568	23	0.0020	16	0.0084	16	0.0079
17	0.0084	19	0.0554	25	0.0015	18	0.0085	18	0.0080
19	0.0106	21	0.0704	31	0.0043	20	0.0066	20	0.0081
21	0.0137	23	0.0896	36	0.0016	22	0.0067	22	0.0046
23	0.0191	25	0.0740	41	0.0040	24	0.0057	24	0.0020
25	0.0193	31	0.0678	46	0.0017	30	0.0027	30	0.0054
31	0.0204	36	0.0712	51	0.0000	35	0.0011	35	0.0000
36	0.0314	41	0.0748	56	0.0006	40	0.0028	40	0.0045
41	0.0294	46	0.0622	61	0.0019	45	0.0041	45	0.0017
46	0.0255	51	0.0399	66	0.0019	50	0.0035	50	0.0012
51	0.0281	56	0.0385	71	0.0000	55	0.0061	55	0.0036
56	0.0250	61	0.0294	76	0.0034	60	0.0006	60	0.0044
61	0.0274	66	0.0423	81	0.0034	65	0.0019	65	0.0025
66	0.0218	71	0.0308	86	0.0014	70	0.0052	70	0.0013
71	0.0190	76	0.0200	91	0.0007	75	0.0014	75	0.0006
76	0.0200	81	0.0219	96	0.0000	80	0.0000	80	0.0020
81	0.0150	86	0.0238	101	0.0000	85	0.0021	85	0.0021
86	0.0238	91	0.0185			90	0.0021	90	0.0000
91	0.0114	96	0.0159			95	0.0021	95	0.0036
96	0.0138	101	0.0206			100	0.0015	100	0.0000
101	0.0147								

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(4 of 5 sheets)

Table 18 (Concluded)

<u>Cycle</u>	<u>Middepth</u>	<u>Cycle</u>	<u>Middepth</u>	<u>Cycle</u>	<u>Middepth</u>	<u>River and Station</u>	<u>Cycle 50 Middepth</u>	<u>Cycle 100 Middepth</u>
<u>Jamaica Bay Station J-1</u>		<u>Jamaica Bay Station J-2</u>		<u>Raritan River Channel, Mile 41</u>		<u>Additional Stations</u>		
0	0.0000	0	0.0000	0	0.0000	Kill Van Kull		
12	0.0034	12	0.0039	4	0.0000	Mile 2	0.0000	0.0295
14	0.0049	14	0.0035	6	0.0014	Mile 4	0.0018	0.0015
16	0.0035	16	0.0035	8	0.0056	Arthur Kill		
18	0.0045	18	0.0035	10	0.0072	Mile 6	0.0172	0.0066
20	0.0020	20	0.0015	12	0.0067	Mile 8	0.0089	0.0022
22	0.0036	22	0.0026	14	0.0054	Mile 12	0.0053	0.0000
24	0.0037	24	0.0000	16	0.0069	Mile 16	0.0000	0.0000
30	0.0005	30	0.0021	18	0.0045	Raritan River		
35	0.0028	35	0.0005	20	0.0071	Channel		
40	0.0017	40	0.0000	22	0.0020	Mile 22	0.0018	0.0000
45	0.0029	45	0.0000	24	----	Mile 24	0.0012	0.0015
50	0.0035	50	0.0023	30	0.0038	Mile 28	0.0012	0.0029
55	0.0013	55	0.0024	35	0.0016	Mile 32	0.0071	0.0081
60	0.0006	60	0.0013	40	0.0028	Mile 34	0.0030	0.0000
65	0.0013	65	0.0000	45	0.0022	Mile 36	0.0042	0.0000
70	0.0000	70	0.0006	50	0.0012	Mile 37	0.0053	0.0000
75	0.0000	75	0.0026	55	0.0013	Mile 38	0.0030	0.0022
80	0.0020	80	0.0034	60	0.0024	Mile 39	0.0018	0.0000
85	0.0014	85	0.0014	65	0.0025	Mile 40	0.0053	0.0015
90	0.0015	90	0.0021	70	0.0019	Mile 42	0.0018	0.0000
95	0.0007	95	0.0021	75	0.0020	Mile 44	0.0000	0.0007
100	0.0007	100	0.0022	80	0.0026	Mile 45	0.0012	0.0000
				85	0.0027	Chapel Hill		
				90	0.0000	Channel		
				95	0.0007	Mile 48	0.0000	0.0037
				100	0.0044	Mile 50	0.0012	0.0015



Table 19

Observed Dye Concentrations at High-Water Slack in Per Cent of Initial Concentration, Test 8

Cycle	Surface	Bottom	Cycle	Surface	Bottom	Cycle	Surface	Bottom
Hudson River, Mile -18			Hudson River, Mile -12			Hudson River, Mile -4		
8	0.0000	0.0000	6	0.0000	0.0000	4	0.0110	0.0023
10	0.0000	0.0000	8	0.0000	0.0000	6	0.0098	0.0060
12	0.0000	0.0000	10	0.0000	0.0000	8	0.0207	0.0132
14	0.0000	0.0010	12	0.0000	0.0000	10	0.0167	0.0124
16	0.0005	0.0019	14	0.0015	0.0000	12	0.0204	0.0121
18	0.0000	0.0000	16	0.0005	0.0010	14	0.0171	0.0107
20	0.0015	0.0000	18	0.0019	0.0010	16	0.0169	0.0119
22	0.0015	0.0026	20	0.0010	0.0000	18	0.0165	0.0120
24	0.0026	0.0000	22	0.0000	0.0020	20	0.0126	0.0096
30	0.0011	0.0027	24	0.0005	0.0000	22	0.0118	0.0082
35	0.0028	0.0016	30	0.0011	0.0005	24	0.0057	0.0072
40	0.0034	0.0022	35	0.0021	0.0021	30	0.0064	0.0027
45	0.0022	0.0000	40	0.0017	0.0028	35	0.0049	0.0055
50	0.0018	0.0000	45	0.0022	0.0005	40	0.0057	0.0063
55	0.0013	0.0000	50	0.0012	0.0012	45	0.0029	0.0041
60	0.0013	0.0013	55	0.0013	0.0013	50	0.0035	0.0042
65	0.0000	0.0006	60	0.0006	0.0018	55	0.0024	0.0061
70	0.0013	0.0006	65	0.0006	0.0000	60	0.0018	0.0013
75	0.0000	0.0000	70	0.0006	0.0006	65	0.0000	0.0006
80	0.0000	0.0000	75	0.0000	0.0000	70	0.0006	0.0013
85	0.0000	0.0006	80	0.0000	0.0006	75	0.0006	0.0014
90	0.0000	0.0000	85	0.0014	0.0000	80	0.0020	0.0000
95	0.0000	0.0000	90	0.0000	0.0000	85	0.0000	0.0000
100	0.0000	0.0015	95	0.0000	0.0015	90	0.0015	0.0000
			100	0.0007	0.0000	95	0.0000	0.0015
						100	0.0000	0.0000
Hudson River, Mile -16			Hudson River, Mile -8			Hudson River, Mile 0		
6	0.0139	0.0033	4	0.0046	0.0037	4	0.0100	0.0060
8	0.0033	0.0014	6	0.0000	0.0000	6	0.0092	0.0158
10	0.0034	0.0014	8	0.0000	0.0004	8	0.0066	0.0071
12	0.0010	0.0000	10	0.0019	0.0038	10	0.0115	0.0129
14	0.0025	0.0004	12	0.0039	0.0024	12	0.0126	0.0121
16	0.0010	0.0019	14	0.0039	0.0015	14	0.0132	0.0152
18	0.0019	0.0025	16	0.0025	0.0019	16	0.0154	0.0123
20	0.0020	0.0010	18	0.0015	0.0005	18	0.0131	0.0131
22	0.0000	0.0005	20	0.0010	0.0010	20	0.0147	0.0081
24	0.0015	0.0011	22	0.0041	0.0036	22	0.0097	0.0093
30	0.0027	0.0021	24	0.0031	0.0005	24	0.0072	0.0083
35	0.0011	0.0039	30	0.0027	0.0011	30	0.0021	0.0070
40	0.0040	0.0022	35	0.0028	0.0033	35	0.0049	0.0039
45	0.0022	0.0012	40	0.0040	0.0012	40	0.0040	0.0028
50	0.0030	0.0018	45	0.0005	0.0012	45	0.0000	0.0000
55	0.0013	0.0013	50	0.0023	0.0023	50	0.0012	0.0000
60	0.0013	0.0013	55	0.0024	0.0000	55	0.0000	0.0000
65	0.0000	0.0000	60	0.0024	0.0013	60	0.0006	0.0000
70	0.0000	0.0000	65	0.0000	0.0000	65	0.0013	0.0000
75	0.0020	0.0000	70	0.0000	0.0000	70	0.0013	0.0000
80	0.0000	0.0034	75	0.0000	0.0000	75	0.0000	0.0006
85	0.0006	0.0000	80	0.0000	0.0000	80	0.0006	0.0014
90	0.0000	0.0000	85	0.0041	0.0000	85	0.0000	0.0014
95	0.0000	----	90	0.0000	0.0000	90	0.0015	0.0000
100	0.0007	0.0022	95	0.0000	0.0000	95	0.0000	0.0028
			100	0.0000	0.0007	100	0.0000	0.0000

(Continued)

(1 of 4 sheets)

Table 19 (Continued)

Cycle	Surface	Bottom	Cycle	Surface	Bottom	Cycle	Middepth	Cycle	Middepth	Cycle	Middepth
Hudson River Mile 4			Hudson River Mile 12			Lower Bay Station 8A		East River Mile 2		East River Mile 12	
4	0.0000	0.0000	8	0.0010	0.0004	4	0.0000	5	0.0000	7	0.0000
6	0.0000	0.0000	10	0.0004	0.0000	6	0.0018	7	0.0047	9	0.0004
8	0.0047	0.0047	12	0.0019	0.0039	8	0.0014	9	0.0072	11	0.0000
10	0.0038	0.0057	14	0.0035	0.0044	10	0.0072	11	0.0115	13	0.0000
12	0.0054	0.0049	16	0.0050	0.0059	12	0.0067	13	0.0068	15	0.0000
14	0.0064	0.0064	18	0.0050	0.0055	14	0.0058	15	0.0079	17	0.0000
16	0.0055	0.0148	20	0.0025	0.0025	16	0.0019	17	0.0075	19	0.0010
18	0.0090	0.0080	22	0.0036	0.0026	18	0.0080	19	0.0100	21	0.0000
20	0.0071	0.0057	24	0.0072	0.0026	20	0.0066	21	0.0086	23	0.0000
22	0.0046	0.0061	30	0.0005	0.0011	22	0.0046	23	0.0082	25	0.0000
24	0.0098	0.0072	35	0.0016	0.0011	24	0.0041	25	0.0031	31	0.0005
30	0.0021	0.0021	40	0.0012	0.0017	30	0.0032	31	0.0027	36	0.0000
35	0.0021	0.0021	45	0.0017	0.0000	35	0.0039	36	0.0033	41	0.0000
40	0.0028	0.0022	50	0.0030	0.0030	40	0.0045	41	0.0022	46	0.0052
45	0.0012	0.0005	55	0.0024	0.0013	45	0.0000	46	0.0005	51	0.0000
50	0.0000	0.0000	60	0.0006	0.0000	50	0.0018	51	0.0000	56	0.0000
55	0.0000	0.0031	65	0.0006	0.0006	55	0.0018	56	0.0013	61	0.0000
60	0.0000	0.0000	70	0.0000	0.0000	60	0.0006	61	0.0000	66	0.0000
65	0.0000	0.0000	75	0.0006	0.0000	65	0.0013	66	0.0000	71	0.0000
70	0.0000	0.0000	80	0.0000	0.0000	70	0.0000	71	0.0000	76	0.0006
75	0.0000	0.0000	85	0.0014	0.0006	75	0.0000	76	0.0000	81	0.0000
80	0.0000	0.0006	90	0.0000	0.0000	80	0.0000	81	0.0000	86	0.0000
85	----	0.0000	95	0.0007	0.0007	85	0.0000	86	0.0006	91	0.0000
90	0.0000	0.0000	100	0.0000	0.0007	90	0.0000	91	0.0000	96	0.0000
95	0.0000	0.0000				95	0.0000	96	0.0000	101	0.0000
100	0.0007	0.0007				100	0.0022	101	0.0000		
Hudson River Mile 8			Hudson River Mile 16			Lower Bay Station 9A		East River Mile 7		Hackensack River Mile 2	
6	0.0010	0.0018	18	0.0010	0.0041	4	0.0051	7	0.0010	3	0.0068
8	0.0010	0.0028	20	0.0005	0.0026	6	0.0074	9	0.0034	5	0.0617
10	0.0019	0.0038	22	0.0061	0.0020	8	0.0132	11	0.0038	7	0.1103
12	0.0029	0.0054	24	0.0015	0.0015	10	0.0124	13	0.0029	9	0.1357
14	0.0035	0.0064	30	0.0027	0.0016	12	0.0106	15	0.0054	11	0.1452
16	0.0040	0.0040	35	0.0011	0.0016	14	0.0117	17	0.0055	13	0.1348
18	0.0056	0.0060	40	0.0028	0.0012	16	0.0114	19	0.0051	15	0.1211
20	0.0036	0.0045	45	0.0012	0.0000	18	0.0160	21	0.0041	17	0.0971
22	0.0052	0.0061	50	0.0018	0.0018	20	0.0091	23	0.0041	19	0.1158
24	0.0020	0.0026	55	0.0000	0.0006	22	0.0087	25	0.0083	21	0.1243
30	0.0064	0.0015	60	0.0000	0.0000	24	0.0078	31	0.0032	23	0.0944
35	0.0005	0.0028	65	0.0000	0.0000	30	0.0064	36	0.0016	25	0.0896
40	0.0045	0.0034	70	0.0000	0.0006	35	0.0055	41	0.0012	31	0.0814
45	0.0017	0.0005	75	0.0000	0.0000	40	0.0045	46	0.0005	36	0.0614
50	0.0005	0.0005	80	0.0000	0.0000	45	0.0052	51	0.0000	41	0.0566
55	0.0006	0.0000	85	0.0000	0.0000	50	0.0023	56	0.0006	46	0.0348
60	0.0000	----	90	0.0000	0.0000	55	0.0013	61	0.0000	51	0.0309
65	0.0000	0.0000	95	0.0000	0.0000	60	0.0018	66	0.0006	56	0.0396
70	0.0000	0.0000	100	0.0000	0.0000	65	0.0006	71	0.0000	61	0.0263
75	0.0000	0.0000				70	0.0000	76	0.0000	66	0.0237
80	0.0000	0.0000				75	0.0006	81	0.0000	71	0.0229
85	0.0000	0.0000				80	0.0000	86	0.0000	76	0.0194
90	0.0000	0.0000				85	0.0000	91	0.0021	81	0.0130
95	0.0000	0.0000				90	0.0000	96	0.0000	86	0.0111
100	0.0000	0.0000				95	0.0015	101	0.0000	91	0.0114
						100	0.0000			96	0.0101
										101	0.0088

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(2 of 4 sheets)

Table 19 (Continued)

Cycle	Middepth	Cycle	Middepth	Cycle	Middepth	Cycle	Middepth	Cycle	Middepth
Hackensack River Mile 6		Hackensack River Mile 14		Passaic River Mile 6		Newark Bay Mile 2		Arthur Kill Mile 7	
5	0.0055	19	0.0040	11	0.0115	3	0.0666	3	0.9970
7	0.0145	21	0.0036	13	0.0185	5	0.1566	5	0.7213
9	0.0342	23	0.0087	15	0.0162	7	0.1623	7	0.6135
11	0.0476	25	0.0130	17	0.0229	9	0.1571	9	0.5088
13	0.0545	31	0.0167	19	0.0453	11	0.1245	11	0.4394
15	0.0610	36	0.0116	21	0.0352	13	0.1231	13	0.3697
17	0.0682	41	0.0181	23	0.0345	15	0.1221	15	0.3140
19	0.0795	46	0.0152	25	0.0474	17	0.1021	17	0.2877
21	0.0723	51	0.0256	31	0.0517	19	0.0906	19	0.2483
23	0.0866	56	0.0244	36	0.0453	21	0.0897	21	0.2243
25	0.0833	61	0.0174	41	0.0420	23	0.0609	23	0.1736
31	0.0803	66	0.0237	46	0.0460	25	0.0485	25	0.1714
36	0.0691	71	0.0242	51	0.0507	31	0.0458	31	0.1125
41	0.0413	76	0.0200	56	0.0434	36	0.0398	36	0.0961
46	0.0331	81	0.0219	61	0.0444	41	0.0284	41	0.0697
51	0.0489	86	0.0174	66	0.0435	46	0.0245	46	0.0506
56	0.0342	91	0.0185	71	0.0275	51	0.0262	51	0.0316
61	0.0350	96	0.0116	76	0.0321	56	0.0170	56	0.0414
66	0.0364	101	0.0118	81	0.0245	61	0.0131	61	0.0306
71	0.0268			86	0.0273	66	0.0148	66	0.0262
76	0.0281			91	0.0198	71	0.0085	71	0.0183
81	0.0219			96	0.0168	76	0.0166	76	0.0141
86	0.0223			101	0.0200	81	0.0069	81	0.0150
91	0.0164					86	0.0070	86	0.0105
96	0.0174					91	0.0063	91	0.0150
101	0.0134					96	0.0015	96	0.0116
						101	0.0037	101	0.0147
Hackensack River Mile 10		Passaic River Mile 2		Passaic River Mile 10		Kill Van Kull Mile 3		Arthur Kill Mile 10	
13	0.0082	3	0.0000	36	0.0160	3	0.0050	3	0.2734
15	0.0158	5	0.0231	41	0.0203	5	0.0161	5	0.3298
17	0.0170	7	0.0482	46	0.0274	7	0.0234	7	0.3208
19	0.0252	9	0.0864	51	0.0322	9	0.0186	9	0.2986
21	0.0260	11	0.0832	56	0.0299	11	0.0207	11	0.2851
23	0.0345	13	0.0973	61	0.0294	13	0.0185	13	0.2399
25	0.0266	15	0.1122	66	0.0192	15	0.0197	15	0.2116
31	0.0463	17	0.1025	71	0.0281	17	0.0155	17	0.2061
36	0.0471	19	0.1062	76	0.0234	19	0.0166	19	0.1727
41	0.0448	21	0.1142	81	0.0239	21	0.0122	21	0.1468
46	0.0326	23	0.1041	86	0.0258	23	0.0128	23	0.1268
51	----	25	0.0943	91	0.0213	25	0.0114	25	0.1407
56	0.0414	31	0.0630	96	0.0239	31	0.0113	31	0.0908
61	0.0350	36	0.0586	101	0.0200	36	0.0072	36	0.0707
66	0.0345	41	0.0499			41	0.0057	41	0.0482
71	0.0334	46	0.0441			46	0.0041	46	0.0372
76	0.0261	51	0.0465			51	0.0012	51	0.0269
81	0.0287	56	0.0360			56	0.0013	56	0.0219
86	0.0174	61	0.0324			61	0.0013	61	0.0194
91	0.0234	66	0.0301			66	0.0013	66	0.0186
96	0.0153	71	0.0203			71	0.0000	71	0.0171
101	0.0162	76	0.0200			76	0.0020	76	0.0101
		81	0.0191			81	0.0020	81	0.0123
		86	0.0132			86	0.0000	86	0.0070
		91	0.0135			91	0.0000	91	0.0093
		96	0.0123			96	0.0015	96	0.0058
		101	0.0096			101	0.0000	101	0.0112

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(3 of 4 sheets)

Table 19 (Concluded)

Cycle	Mid-depth	Cycle	Mid-depth	Cycle	Mid-depth	Cycle	Mid-depth	Cycle	Mid-depth	River and Station	50 Cycles Mid-depth	100 Cycles Mid-depth
Arthur Kill Mile 14		Raritan River Channel Mile 26		Raritan River Channel Mile 35		Chapel Hill Channel Mile 46		Jamaica Bay Station J-2		Additional Stations		
3	0.0113	5	0.0000	6	0.0004	6	0.0037	16	0.0010	Kill Van		
5	0.0336	7	0.0000	8	0.0004	8	0.0018	18	0.0030	Kull		
7	0.0931	9	0.0000	10	0.0014	10	0.0043	20	0.0015	Mile 2	0.0030	0.0000
9	0.0758	11	0.0019	12	0.0049	12	0.0067	22	0.0026	Mile 4	0.0030	0.0000
11	0.0808	13	0.0010	14	0.0074	14	0.0083	24	0.0026	Arthur Kill		
13	0.0832	15	0.0079	16	0.0079	16	0.0069	30	0.0032	Mile 6	0.0469	0.0111
15	0.0674	17	0.0075	18	0.0080	18	0.0070	35	0.0033	Mile 8	0.0433	0.0096
17	0.0767	19	0.0076	20	0.0071	20	0.0066	40	0.0028	Mile 12	0.0220	0.0066
19	0.0579	21	0.0071	22	0.0061	22	0.0067	45	0.0005	Mile 16	0.0035	0.0059
21	0.0438	23	0.0082	24	0.0041	24	0.0067	50	0.0035	Raritan		
23	0.0531	25	0.0073	30	0.0043	30	0.0075	55	0.0013	River		
25	0.0417	31	0.0064	35	0.0055	35	0.0039	60	0.0018	Channel		
31	0.0360	36	0.0121	40	0.0045	40	0.0050	65	0.0000	Mile 20	0.0100	0.0029
36	0.0198	41	0.0210	45	0.0022	45	0.0029	70	0.0000	Mile 22	0.0118	0.0052
41	0.0074	46	0.0064	50	0.0042	50	0.0053	75	0.0000	Mile 24	0.0083	0.0059
46	0.0110	51	0.0060	55	0.0024	55	0.0018	80	0.0000	Mile 28	0.0035	0.0015
51	0.0149	56	0.0061	60	0.0006	60	0.0063	85	0.0000	Mile 32	0.0071	0.0000
56	0.0110	61	0.0063	65	0.0006	65	0.0019	90	0.0000	Mile 34	0.0035	0.0000
61	0.0100	66	0.0076	70	0.0000	70	0.0000	95	0.0000	Mile 36	0.0030	0.0015
66	0.0097	71	0.0046	75	0.0000	75	0.0000	100	0.0000	Mile 37	0.0030	0.0000
71	0.0085	76	0.0040	80	0.0000	80	0.0000			Mile 38	0.0042	0.0000
76	0.0080	81	0.0048	85	0.0014	85	0.0000			Mile 39	0.0035	0.0000
81	0.0061	86	0.0027	90	0.0000	90	0.0015			Mile 40	0.0047	0.0000
86	0.0070	91	0.0028	95	0.0000	95	0.0000			Mile 42	0.0035	0.0000
91	0.0028			100	0.0007	100	0.0015			Mile 44	0.0030	0.0000
96	0.0043									Mile 45	0.0012	0.0000
101	0.0052									Chapel Hill		
Arthur Kill Mile 18		Raritan River Channel Mile 30		Raritan River Channel Mile 41		Jamaica Bay Station J-1				Channel		
3	0.0000	6	0.0000	6	0.0010	16	0.0040			Mile 48	0.0030	0.0000
5	0.0014	8	0.0000	8	0.0000	18	0.0045			Mile 50	0.0030	0.0000
7	0.0071	10	0.0000	10	0.0028	20	0.0030			Headbay		
9	0.0024	12	0.0014	12	0.0043	22	0.0015			A	----	0.0007
11	0.0048	14	0.0015	14	0.0044	24	0.0011			B	----	0.0000
13	0.0063	16	0.0050	16	0.0044	30	0.0038			C	----	0.0000
15	0.0083	18	0.0065	18	0.0045	35	0.0011			Raritan		
17	0.0090	20	0.0051	20	0.0051	40	0.0045			River		
19	0.0096	22	0.0052	22	0.0046	45	0.0058			Headbay	----	0.0083
21	0.0082	24	0.0094	24	0.0046	50	0.0035					
23	0.0078	30	0.0086	30	0.0032	55	0.0006					
25	0.0099	35	0.0083	35	0.0044	60	0.0013					
31	0.0102	40	0.0063	40	0.0045	65	0.0019					
36	0.0198	45	0.0058	45	0.0052	70	0.0013					
41	0.0119	50	0.0071	50	0.0047	75	0.0006					
46	0.0069	55	0.0049	55	0.0006	80	0.0000					
51	0.0065	60	0.0031	60	0.0031	85	0.0021					
56	0.0067	65	0.0038	65	0.0000	90	0.0000					
61	0.0063	70	0.0006	70	0.0000	95	0.0000					
66	0.0076	75	0.0026	75	0.0014	100	0.0000					
71	0.0046	80	0.0000	80	0.0000							
76	0.0067	85	0.0006	85	0.0000							
81	0.0055	90	0.0006	90	0.0000							
86	0.0049	95	0.0000	95	0.0007							
91	0.0057	100	0.0007	100	0.0007							
96	0.0036											
101	0.0052											

Table 20

Observed Dye Concentrations at High-Water Slack in Per Cent of Initial Concentration, Test 9

Cycle	Surface	Bottom	Cycle	Surface	Bottom	Cycle	Surface	Bottom
Hudson River, Mile -18			Hudson River, Mile -12			Hudson River, Mile -4		
10	0.0014	0.0010	2	0.0000	0.0000	2	0.0587	0.1892
12	0.0019	0.0019	4	0.0041	0.0027	4	0.0539	0.0581
14	0.0029	0.0010	6	0.0014	0.0004	6	0.0307	0.0260
16	0.0025	0.0010	8	0.0024	0.0010	8	0.0212	0.0147
18	0.0030	0.0025	10	0.0014	0.0004	10	0.0153	0.0110
20	0.0036	0.0030	12	0.0019	0.0019	12	0.0106	0.0073
22	0.0020	0.0020	14	0.0019	0.0019	14	0.0083	0.0049
24	0.0015	0.0011	16	0.0029	0.0035	16	0.0065	0.0029
30	0.0032	0.0038	18	0.0030	0.0030	18	0.0050	0.0050
35	0.0016	0.0011	20	0.0010	0.0030	20	0.0051	0.0030
40	0.0040	0.0017	22	0.0030	0.0030	22	0.0041	0.0030
45	0.0034	0.0022	24	0.0011	0.0026	24	0.0031	0.0026
50	0.0030	0.0030	30	0.0027	0.0038	30	0.0027	0.0027
55	0.0036	0.0043	35	0.0016	0.0000	35	0.0021	0.0033
60	0.0044	0.0018	40	0.0022	0.0028	40	0.0028	0.0034
65	0.0025	0.0032	45	0.0022	0.0029	45	0.0005	0.0012
70	0.0000	0.0000	50	0.0018	0.0012	50	0.0030	0.0018
75	0.0006	0.0006	55	0.0013	0.0013	55	0.0018	0.0018
80	0.0006	0.0000	60	0.0000	0.0000	60	0.0037	0.0024
85	0.0021	0.0006	65	0.0000	0.0013	65	0.0013	0.0006
90	0.0000	0.0000	70	0.0006	0.0000	70	0.0006	0.0033
95	0.0021	0.0007	75	0.0006	0.0006	75	0.0006	0.0014
100	0.0000	0.0000	80	0.0026	0.0020	80	0.0000	0.0026
			85	0.0000	0.0014	85	0.0000	0.0014
			90	0.0006	0.0006	90	0.0000	0.0000
			95	0.0015	0.0015	95	0.0015	0.0015
			100	0.0015	0.0007	100	0.0000	0.0000
Hudson River, Mile -16			Hudson River, Mile -8			Hudson River, Mile 0		
10	0.0004	0.0014	2	0.0161	0.0148	2	0.0104	0.1103
12	0.0019	0.0019	4	0.0119	0.0106	4	0.0306	0.0466
14	0.0010	0.0010	6	0.0041	0.0055	6	0.0256	0.0338
16	0.0025	0.0019	8	0.0028	0.0033	8	0.0198	0.0212
18	0.0015	0.0015	10	0.0024	0.0019	10	0.0153	0.0157
20	0.0015	0.0015	12	0.0029	0.0014	12	0.0116	0.0126
22	0.0011	0.0005	14	0.0010	0.0015	14	0.0093	0.0088
24	0.0020	0.0011	16	0.0019	0.0025	16	0.0079	0.0065
30	0.0016	0.0021	18	0.0030	0.0025	18	0.0065	0.0055
35	0.0011	0.0005	20	0.0045	0.0036	20	0.0051	0.0045
40	0.0034	0.0022	22	0.0020	0.0020	22	0.0056	0.0067
45	0.0005	0.0012	24	0.0015	0.0026	24	0.0041	0.0052
50	0.0018	0.0023	30	0.0016	0.0016	30	0.0048	0.0043
55	0.0018	0.0000	35	0.0039	0.0011	35	0.0028	0.0021
60	0.0006	0.0013	40	0.0022	0.0022	40	0.0034	0.0040
65	0.0013	0.0013	45	0.0022	0.0022	45	0.0022	0.0029
70	0.0000	0.0006	50	0.0023	0.0030	50	0.0005	0.0005
75	0.0006	0.0026	55	0.0000	0.0000	55	0.0031	0.0024
80	0.0034	0.0020	60	0.0000	0.0000	60	0.0013	0.0000
85	0.0006	0.0006	65	0.0051	0.0025	65	0.0025	0.0006
90	0.0014	0.0042	70	0.0006	0.0006	70	0.0019	0.0013
95	0.0015	0.0007	75	0.0040	0.0014	75	0.0020	0.0026
100	0.0015	0.0022	80	0.0026	0.0020	80	0.0000	0.0000
			85	0.0014	0.0014	85	0.0000	0.0076
			90	0.0006	0.0000	90	0.0000	0.0000
			95	0.0007	0.0021	95	0.0036	0.0000
			100	0.0000	0.0000	100	0.0015	0.0015

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(1 of 4 sheets)

Table 20 (Continued)

Cycle	Surface	Bottom	Cycle	Surface	Bottom	Cycle	Middepth	Cycle	Middepth	Cycle	Middepth
Hudson River Mile 4			Hudson River Mile 12			Lower Bay Station 8A		East River Mile 2		East River Mile 12	
4	0.0114	0.0274	4	0.0027	0.0032	2	0.1444	3	0.0286	3	0.0000
6	0.0139	0.0237	6	0.0065	0.0070	4	0.0603	5	0.0221	5	0.0018
8	0.0118	0.0155	8	0.0075	0.0080	6	0.0209	7	0.0220	7	0.0037
10	0.0133	0.0143	10	0.0086	0.0081	8	0.0165	9	0.0152	9	0.0038
12	0.0106	0.0106	12	0.0067	0.0087	10	0.0139	11	0.0106	11	0.0034
14	0.0097	0.0093	14	0.0068	0.0082	12	0.0077	13	0.0092	13	0.0049
16	0.0069	0.0084	16	0.0079	0.0059	14	0.0049	15	0.0069	15	0.0035
18	0.0065	0.0050	18	0.0065	0.0080	16	0.0054	17	0.0069	17	0.0030
20	0.0060	0.0066	20	0.0036	0.0056	18	0.0030	19	0.0060	19	0.0030
22	0.0056	0.0052	22	0.0041	0.0077	20	0.0056	21	0.0056	21	0.0026
24	0.0041	0.0037	24	0.0041	0.0037	22	0.0020	23	0.0041	23	0.0037
30	0.0027	0.0021	30	0.0011	0.0021	24	0.0026	25	0.0037	25	0.0026
35	0.0028	----	35	0.0039	0.0028	30	0.0016	31	0.0016	31	0.0005
40	0.0040	0.0028	40	0.0028	0.0017	35	0.0021	36	0.0021	36	0.0016
45	0.0041	0.0022	45	0.0022	0.0017	40	0.0028	41	0.0029	41	0.0029
50	0.0018	0.0012	50	0.0005	0.0012	45	0.0022	46	0.0029	46	0.0017
55	0.0024	0.0000	55	0.0013	0.0018	50	0.0018	51	0.0000	51	0.0018
60	0.0037	0.0018	60	0.0000	0.0000	55	0.0000	56	0.0018	56	0.0013
65	0.0025	0.0019	65	0.0006	0.0000	60	0.0013	61	0.0000	61	0.0000
70	0.0013	0.0006	70	0.0000	0.0013	65	0.0032	66	0.0013	66	0.0064
75	0.0020	0.0006	75	0.0006	0.0020	70	0.0006	71	0.0000	71	0.0013
80	0.0006	0.0006	80	0.0000	0.0000	75	0.0020	76	0.0014	76	0.0000
85	0.0021	0.0000	85	0.0014	0.0000	80	0.0014	81	0.0014	81	0.0041
90	0.0000	0.0000	90	0.0015	0.0015	85	0.0000	86	0.0000	86	0.0027
95	0.0015	0.0000	95	0.0000	0.0000	90	0.0021	91	0.0000	91	0.0007
100	0.0022	0.0029	100	0.0007	0.0000	95	0.0021	96	0.0022	96	0.0000
						100	0.0022	101	0.0000	101	0.0007
Hudson River Mile 8			Hudson River Mile 16			Lower Bay Station 9A		East River Mile 7		East River Mile 17	
4	0.0046	0.0114	12	0.0029	0.0034	2	0.0646	3	0.0054	11	0.0000
6	0.0084	0.0153	14	0.0025	0.0049	4	0.0516	5	0.0134	13	0.0000
8	0.0085	0.0147	16	0.0019	0.0040	6	0.0358	7	0.0140	15	0.0000
10	0.0105	0.0139	18	0.0035	0.0050	8	0.0236	9	0.0110	17	0.0005
12	0.0102	0.0126	20	0.0025	0.0036	10	0.0105	11	0.0101	19	0.0000
14	0.0078	0.0083	22	0.0067	0.0052	12	0.0096	13	0.0073	21	0.0015
16	0.0084	0.0079	24	0.0020	0.0026	14	0.0074	15	0.0074	23	0.0026
18	0.0065	0.0076	30	0.0005	0.0016	16	0.0054	17	0.0055	25	0.0000
20	0.0060	0.0060	35	0.0016	0.0021	18	0.0050	19	0.0051	31	0.0000
22	0.0056	0.0061	40	0.0017	0.0022	20	0.0060	21	0.0061	36	0.0016
24	0.0026	0.0037	45	0.0005	0.0005	22	0.0046	23	0.0052	41	0.0017
30	0.0038	0.0027	50	0.0012	0.0006	24	0.0041	25	0.0037	46	0.0005
35	0.0021	0.0021	55	0.0000	0.0000	30	0.0021	31	0.0011	51	0.0018
40	0.0034	0.0022	60	0.0000	0.0000	35	0.0028	36	0.0028	56	0.0024
45	0.0022	0.0029	100	0.0015	0.0007	40	0.0017	41	0.0000	61	0.0024
50	0.0030	0.0030				45	0.0022	46	0.0035	66	0.0000
55	0.0018	0.0013				50	0.0005	51	0.0018	71	0.0000
60	0.0013	0.0006				55	0.0006	56	0.0000	76	0.0000
65	0.0025	0.0019				60	0.0037	61	0.0006	81	0.0020
70	0.0013	0.0019				65	0.0000	66	0.0019	86	0.0000
75	0.0000	0.0000				70	0.0013	71	0.0000	91	0.0028
80	0.0000	0.0000				75	0.0006	76	0.0000	96	0.0015
85	0.0000	0.0000				80	0.0000	81	----	101	0.0007
90	0.0021	0.0000				85	0.0035	86	----		
95	0.0015	0.0007				90	0.0006	91	0.0000		
100	0.0000	0.0000				95	0.0007	96	0.0022		
						100	----	101	----		

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(2 of 4 sheets)

Table 20 (Continued)

Cycle	Middepth	Cycle	Middepth	Cycle	Middepth	Cycle	Middepth	Cycle	Middepth
Harlem River Mile 3		Hackensack River Mile 6		Newark Bay Mile 2		Arthur Kill Mile 7		Arthur Kill Mile 14	
9	0.0000	31	0.0032	3	0.0023	3	0.0000	25	0.0037
11	0.0019	36	0.0039	5	0.0111	5	0.0004	31	0.0016
13	0.0004	41	0.0045	7	0.0126	7	0.0028	36	0.0028
15	0.0019	46	0.0047	9	0.0132	9	0.0018	41	0.0040
17	0.0019	51	0.0023	11	0.0125	11	0.0019	46	0.0041
19	0.0030	56	0.0031	13	0.0117	13	0.0019	51	0.0023
21	0.0015	60	0.0019	15	0.0083	15	0.0025	56	0.0006
23	0.0026	66	0.0038	17	0.0080	17	----	61	0.0013
25	0.0000	71	0.0046	19	0.0085	19	0.0015	66	----
36	0.0016	76	0.0020	21	0.0077	21	0.0036	71	0.0039
41	0.0005	81	0.0020	23	0.0078	23	0.0015	76	0.0034
46	0.0000	86	0.0021	25	0.0068	25	0.0011	81	0.0000
51	0.0012	91	0.0000	31	0.0032	31	0.0021	86	0.0000
56	0.0000	96	0.0015	36	0.0028	36	0.0021	91	0.0015
61	0.0018	101	0.0007	41	0.0040	41	0.0034	96	0.0022
66	0.0006			46	0.0029	46	0.0035	101	0.0007
71	0.0000			51	0.0012	51	0.0042		
76	0.0000			56	0.0018	56	0.0018		
81	0.0014			61	0.0013	61	0.0024		
86	0.0021			66	0.0006	101	0.0015		
91	0.0015			71	0.0006				
96	0.0000			76	0.0014				
101	0.0000			81	0.0020				
				86	0.0000				
				91	0.0021				
				96	0.0007				
				101	0.0007				
Hackensack River Mile 2		Passaic River Mile 2		Kill Van Kull Mile 3		Arthur Kill Mile 10		Arthur Kill Mile 18	
5	0.0018	5	0.0004	3	0.0172	36	0.0016	13	0.0004
7	0.0033	7	0.0014	5	0.0313	41	0.0040	15	0.0029
9	0.0062	9	0.0042	7	0.0243	46	0.0035	17	0.0035
11	0.0077	11	0.0043	9	0.0170	51	0.0030	19	0.0015
13	0.0092	13	0.0039	11	0.0120	56	0.0018	21	0.0030
15	0.0089	15	0.0059	13	0.0088	61	0.0006	23	0.0046
17	0.0084	17	0.0059	15	0.0089	66	----	25	0.0046
19	0.0076	19	0.0060	17	0.0075	71	0.0006	31	0.0038
21	0.0082	21	0.0056	19	0.0066	76	----	36	0.0039
23	0.0098	23	0.0072	21	0.0056	81	0.0014	41	0.0057
25	0.0062	25	0.0052	23	0.0052	86	0.0000	46	0.0041
31	0.0054	31	0.0064	25	0.0037	91	0.0007	51	0.0035
36	0.0039	36	0.0044	31	0.0021	96	0.0007	56	0.0031
41	0.0045	41	0.0017	36	0.0016	101	0.0007	61	0.0031
46	0.0047	46	0.0035	41	0.0029			66	0.0032
51	0.0030	51	0.0030	46	0.0023			71	0.0000
56	0.0036	56	0.0018	51	0.0018			76	0.0040
61	0.0013	61	0.0044	56	0.0000			81	0.0020
66	0.0013	66	0.0038	61	0.0000			86	0.0000
71	0.0046	71	0.0019	66	0.0013			91	0.0000
76	0.0020	76	0.0014	71	0.0013			96	0.0000
81	0.0027	81	0.0027	76	0.0000			101	0.0015
86	0.0006	86	0.0027	81	0.0000				
91	0.0015	91	0.0036	86	0.0014				
96	0.0036	96	0.0000	91	0.0036				
101	0.0007	101	0.0022	96	0.0007				
				101	0.0007				

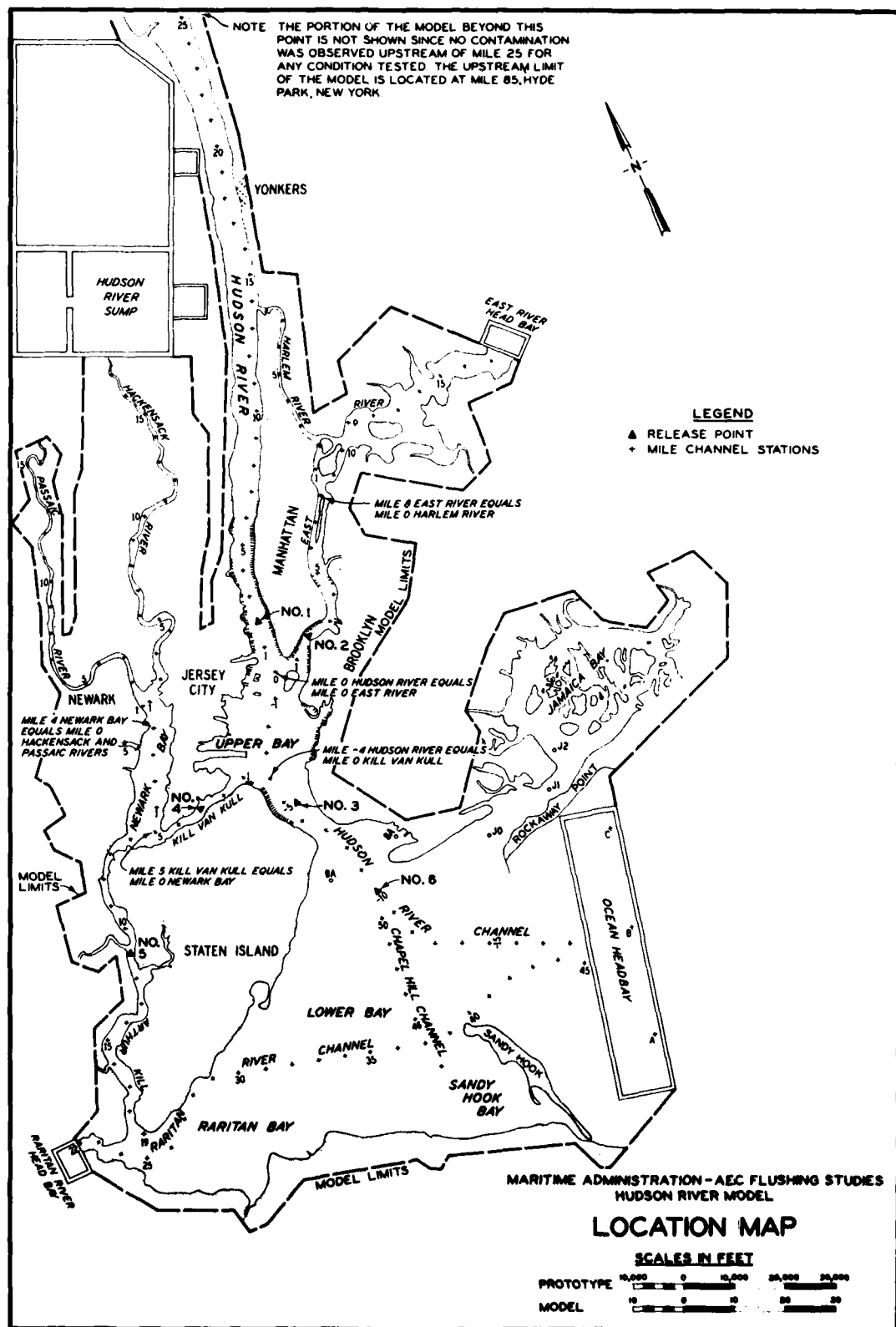
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(3 of 4 sheets)

Table 20 (Concluded)

Cycle Middepth		Cycle Middepth		Cycle Middepth		50 Cycles Middepth 100 Cycles Middepth		
Raritan River Channel, Mile 26		Chapel Hill Channel, Mile 46		Jamaica Bay Station J-1		River and Station Additional Stations		
13	0.0039	4	0.0179	2	0.0076	Kill Van Kull		
15	0.0050	6	0.0307	4	0.0091	Mile 2	----	0.0015
17	0.0055	8	0.0240	6	0.0060	Mile 4	0.0018	0.0022
19	0.0055	10	0.0191	8	0.0052	Arthur Kill		
21	0.0061	12	0.0155	10	0.0024	Mile 6	0.0023	0.0015
23	0.0067	14	0.0088	12	0.0029	Mile 8	0.0042	0.0022
25	0.0031	16	0.0089	14	0.0019	Mile 12	0.0023	0.0000
31	0.0032	18	0.0060	16	0.0025	Mile 16	----	0.0015
36	0.0039	20	0.0036	18	0.0025	Raritan River		
41	0.0051	22	0.0056	20	0.0010	Channel		
46	0.0047	24	0.0032	22	0.0011	Mile 20	0.0023	0.0029
51	0.0012	30	0.0039	24	0.0032	Mile 22	0.0012	0.0000
56	0.0013	35	0.0012	30	0.0021	Mile 24	0.0023	0.0000
61	0.0031	40	0.0046	35	0.0022	Mile 28	0.0023	0.0007
66	0.0038	45	0.0030	40	0.0029	Mile 32	0.0065	0.0022
71	0.0046	50	0.0024	45	0.0030	Mile 34	0.0018	0.0022
76	0.0047	55	0.0013	50	0.0018	Mile 36	0.0030	0.0015
81	0.0027	60	0.0032	55	0.0000	Mile 37	0.0035	0.0000
86	0.0000	65	0.0013	60	0.0000	Mile 39	0.0042	0.0037
91	0.0015	70	0.0026	65	0.0000	Mile 40	0.0030	0.0000
96	0.0036	75	0.0021	70	0.0000	Mile 42	----	0.0022
101	0.0022	80	0.0034	75	0.0014	Mile 44	0.0012	0.0022
		85	0.0006	80	0.0000	Mile 45	0.0030	0.0015
		90	0.0015	85	0.0035	Chapel Hill		
		95	0.0028	90	0.0006	Channel		
		100	0.0022	95	0.0000	Mile 48	0.0030	0.0022
				100	0.0015	Mile 50	0.0012	0.0015
						Raritan River		
						Headbay	----	0.0015
Raritan River Channel, Mile 41		Jamaica Bay Station J-0		Jamaica Bay Station J-2				
4	0.0054	4	0.0014	2	0.0117			
6	0.0232	6	0.0014	4	0.0146			
8	0.0198	8	0.0004	6	0.0074			
10	0.0105	10	0.0034	8	0.0066			
12	0.0116	12	0.0014	10	0.0038			
14	0.0078	14	0.0039	12	0.0034			
16	0.0065	16	0.0029	14	0.0035			
18	0.0060	18	0.0030	16	0.0029			
20	0.0051	20	0.0030	18	0.0030			
22	0.0041	22	0.0015	20	0.0020			
24	0.0038	24	0.0032	22	0.0015			
30	0.0033	30	0.0021	24	0.0021			
35	0.0017	35	0.0022	30	0.0016			
40	0.0017	40	0.0034	35	0.0012			
45	0.0023	45	0.0023	40	0.0005			
50	0.0006	50	0.0013	45	0.0023			
55	0.0000	55	0.0018	50	0.0006			
60	0.0006	60	0.0000	55	0.0013			
65	0.0033	65	0.0013	60	0.0025			
70	0.0020	70	0.0006	65	0.0006			
75	0.0000	75	0.0034	70	0.0014			
80	0.0026	80	0.0014	75	0.0000			
85	0.0014	85	0.0027	80	0.0000			
90	0.0015	90	0.0000	85	0.0006			
95	0.0000	95	0.0000	90	0.0000			
100	0.0000	100	0.0029	95	0.0000			
				100	0.0000			





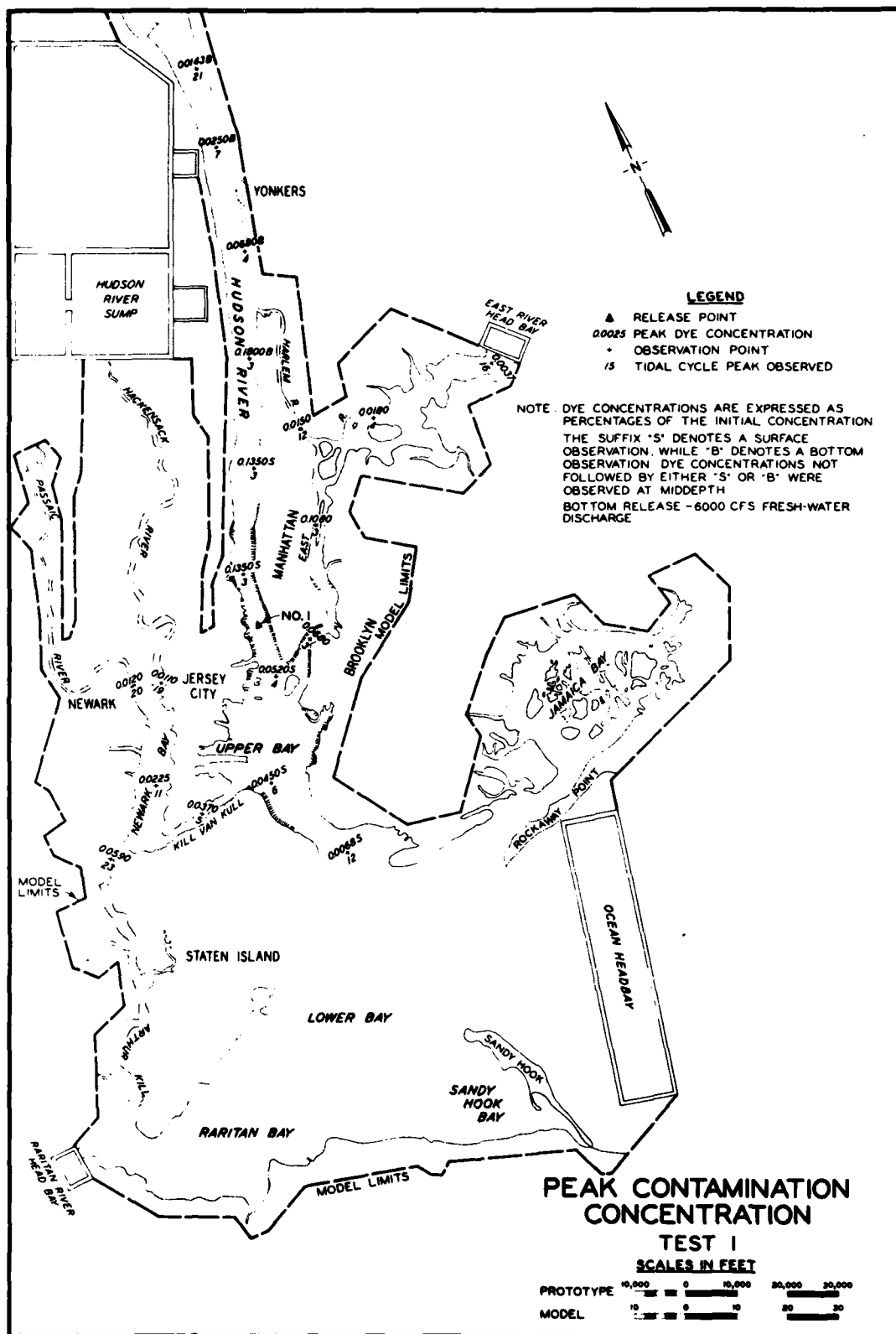


PLATE 2

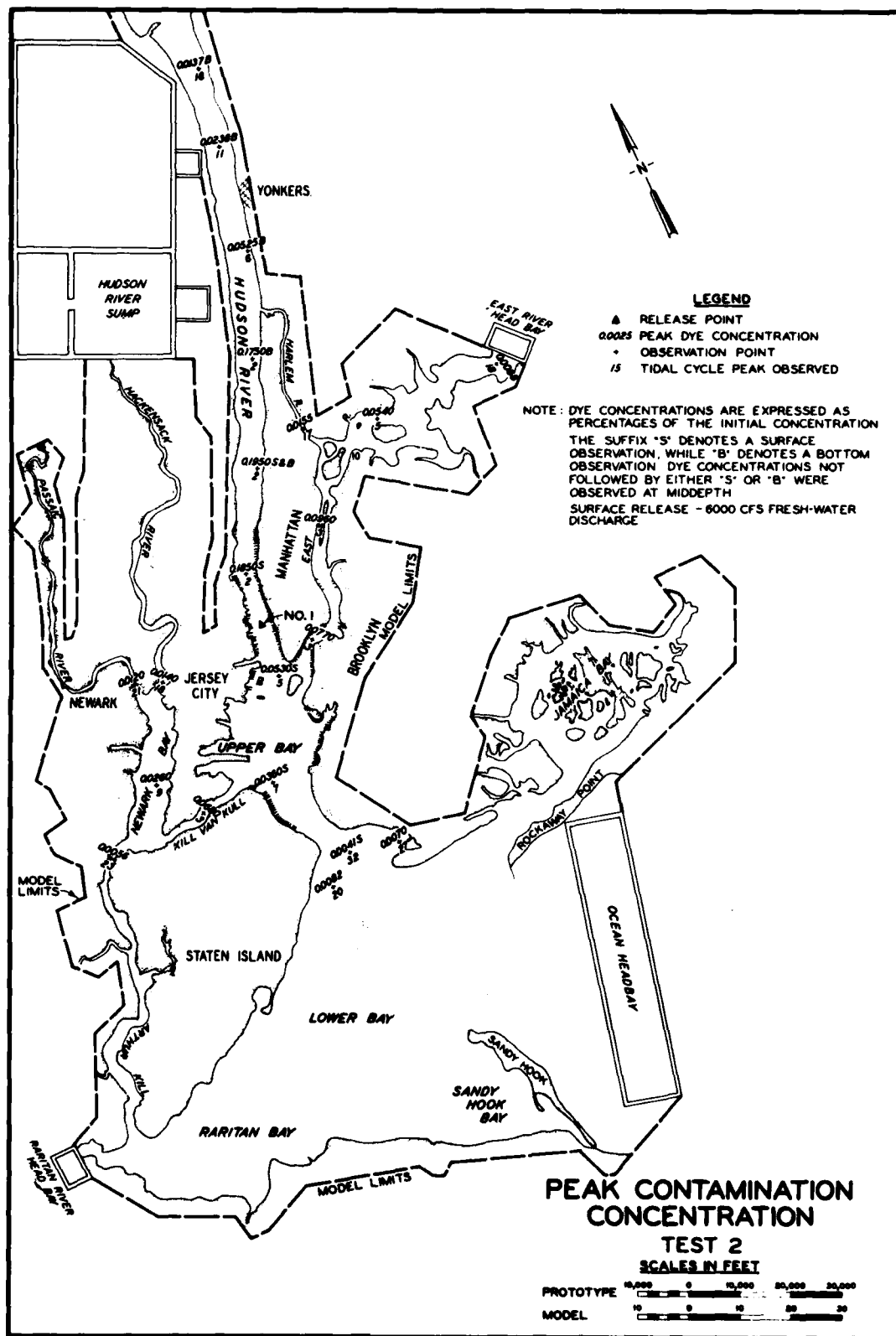


PLATE 3

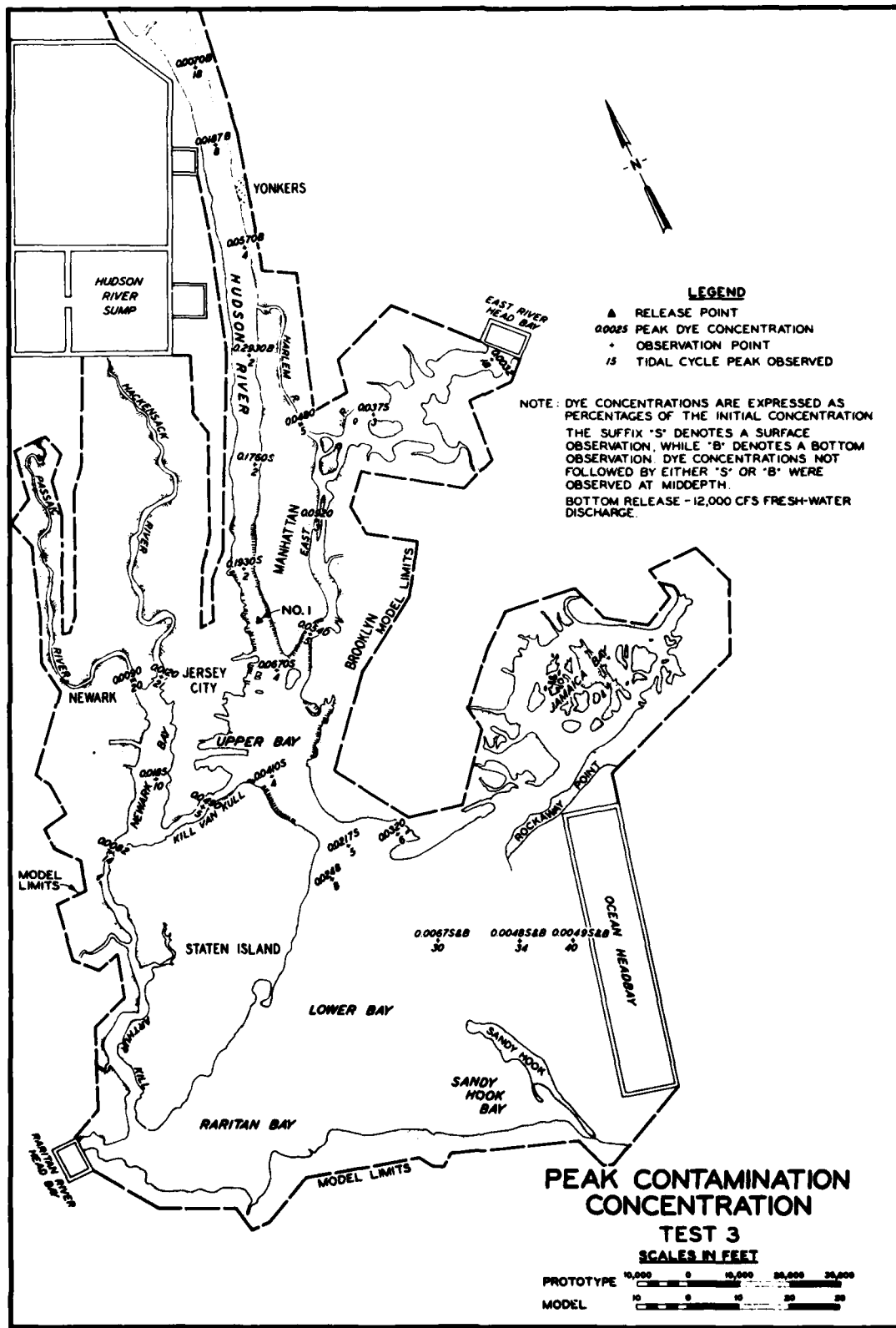
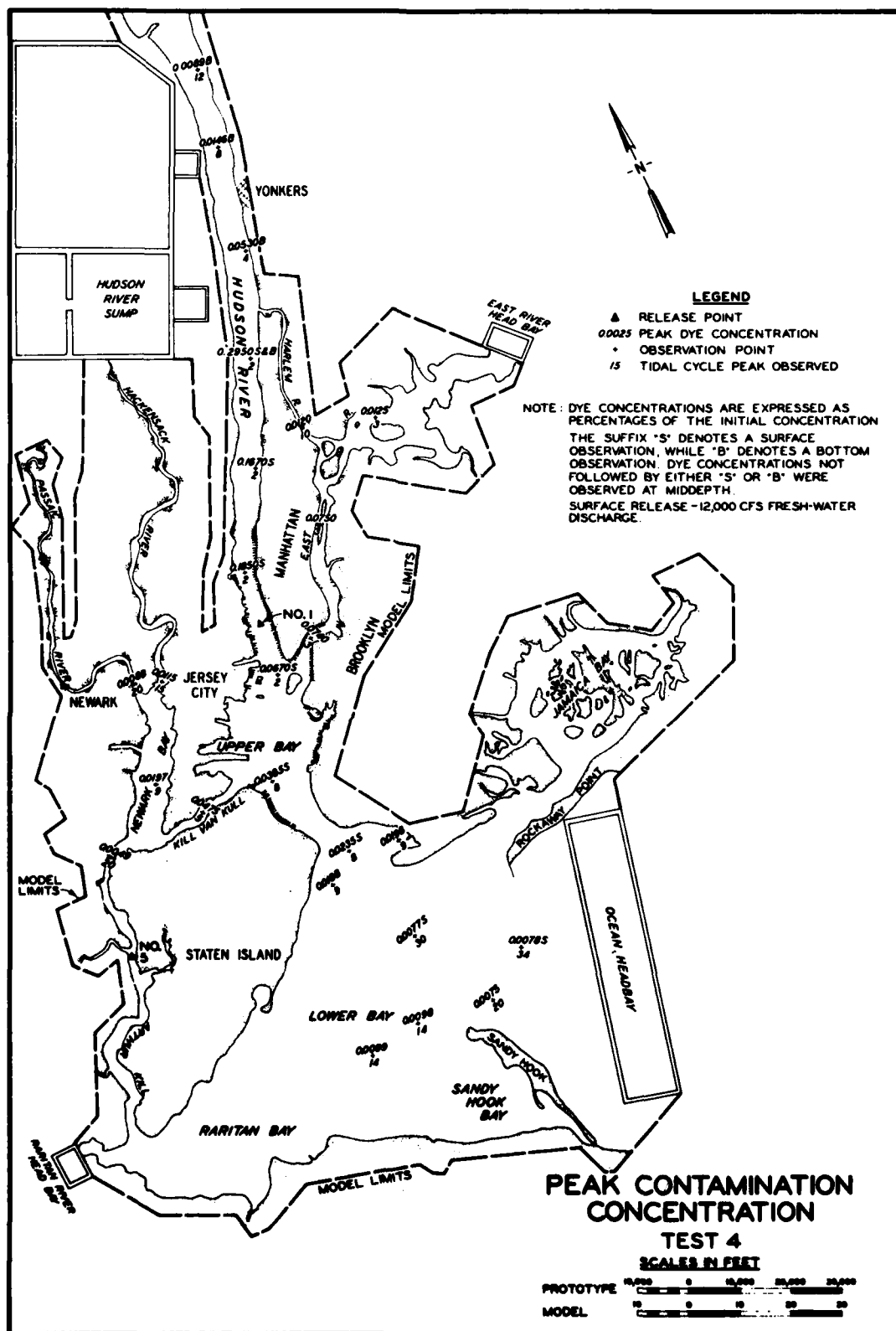


PLATE 4



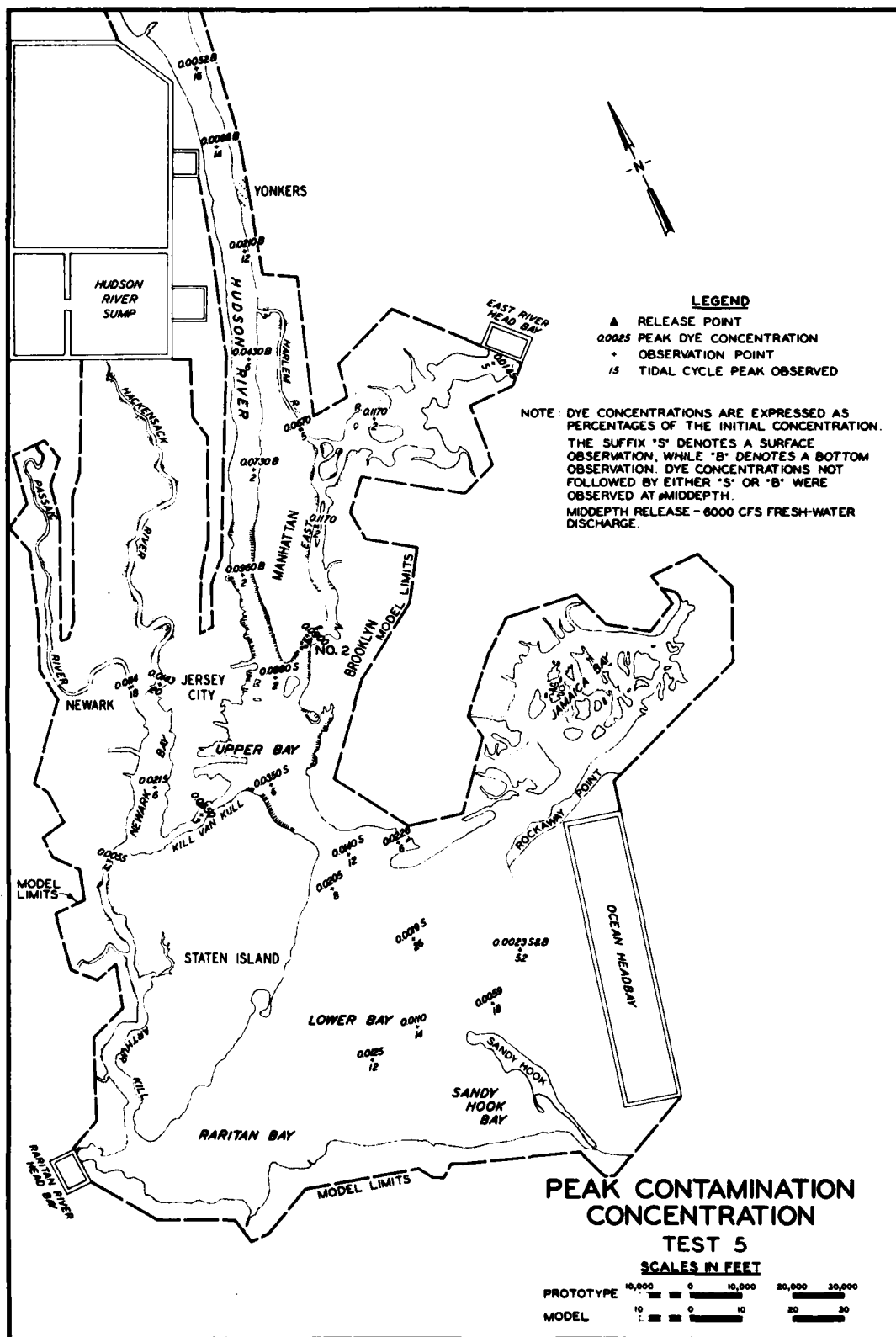
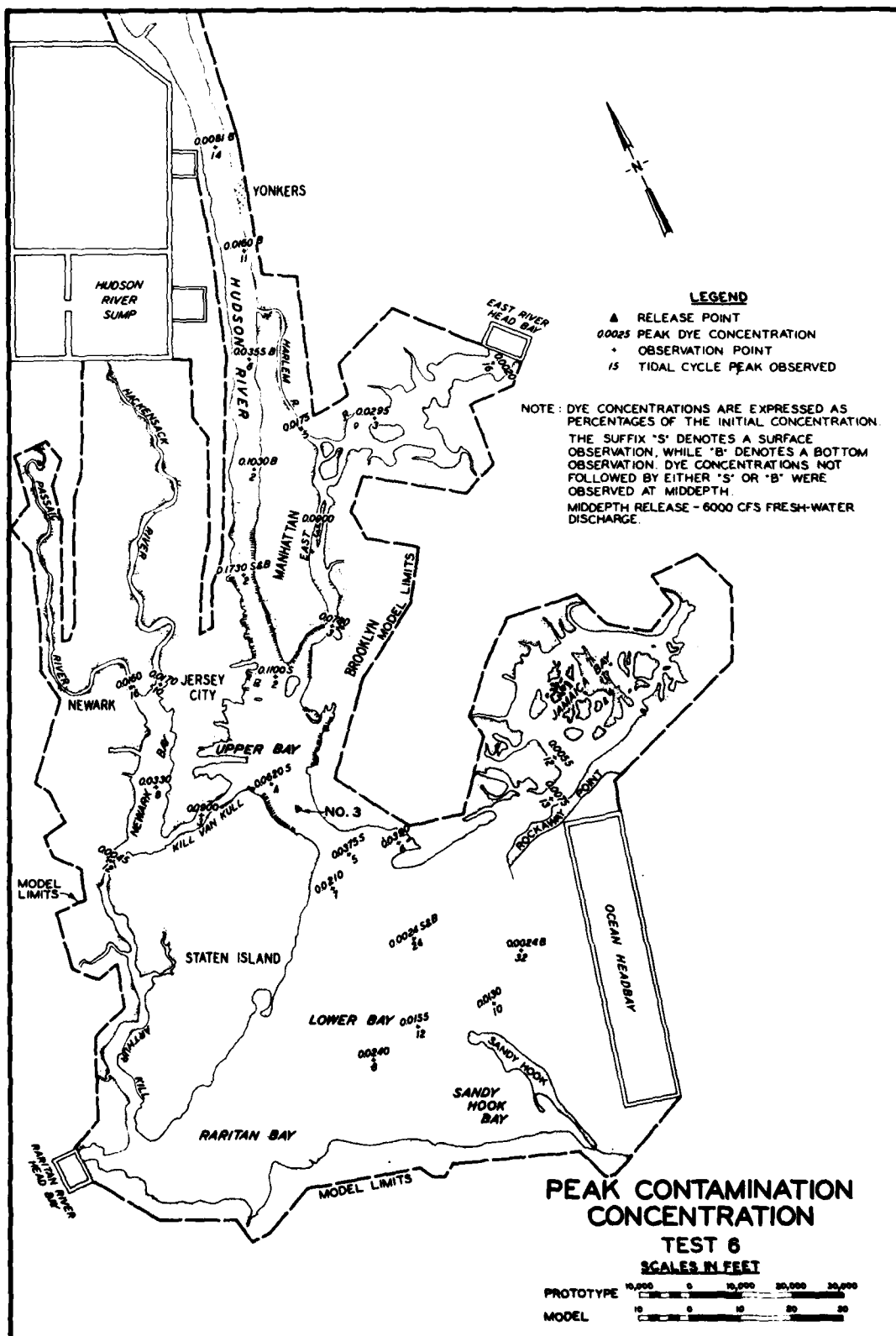


PLATE 6



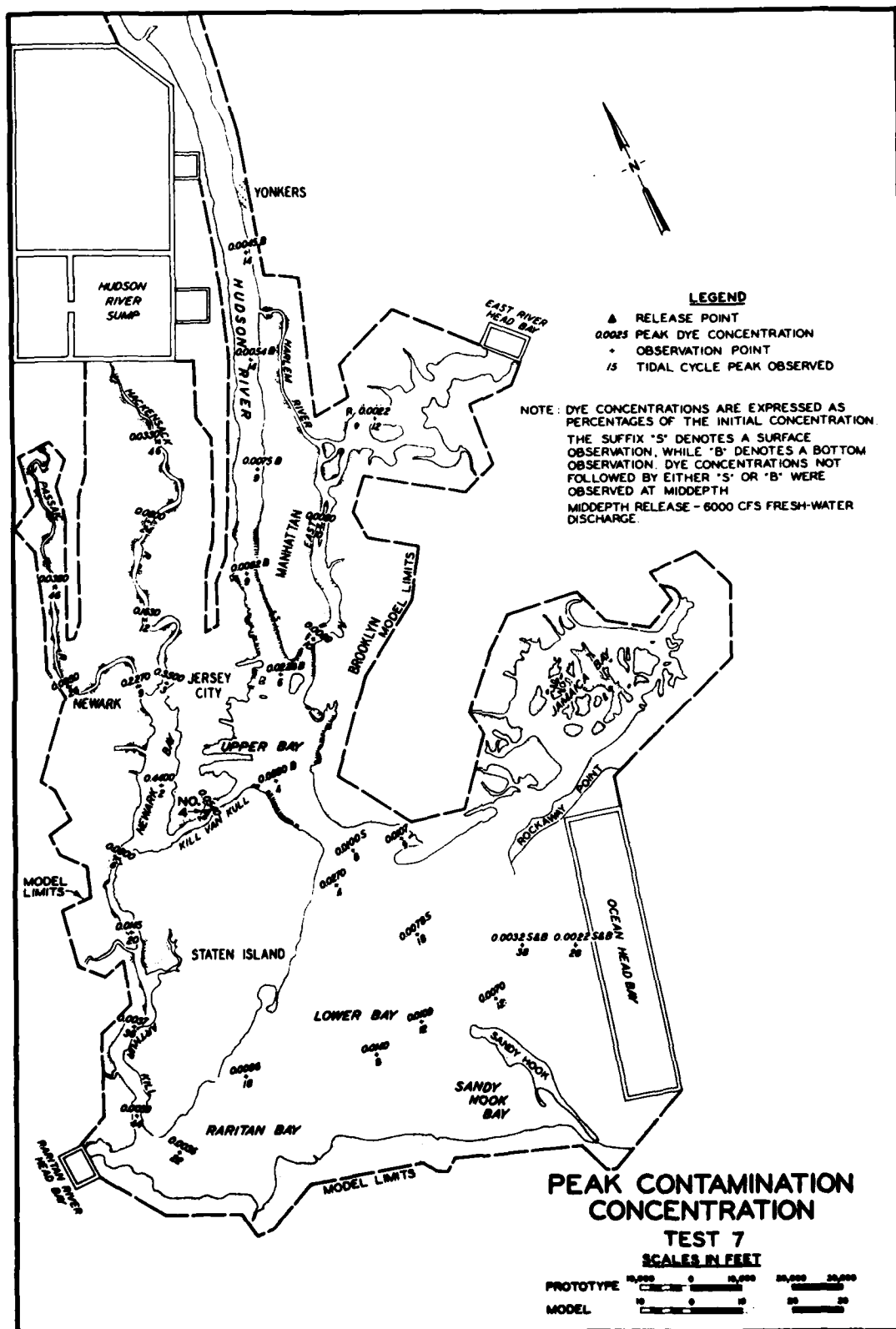
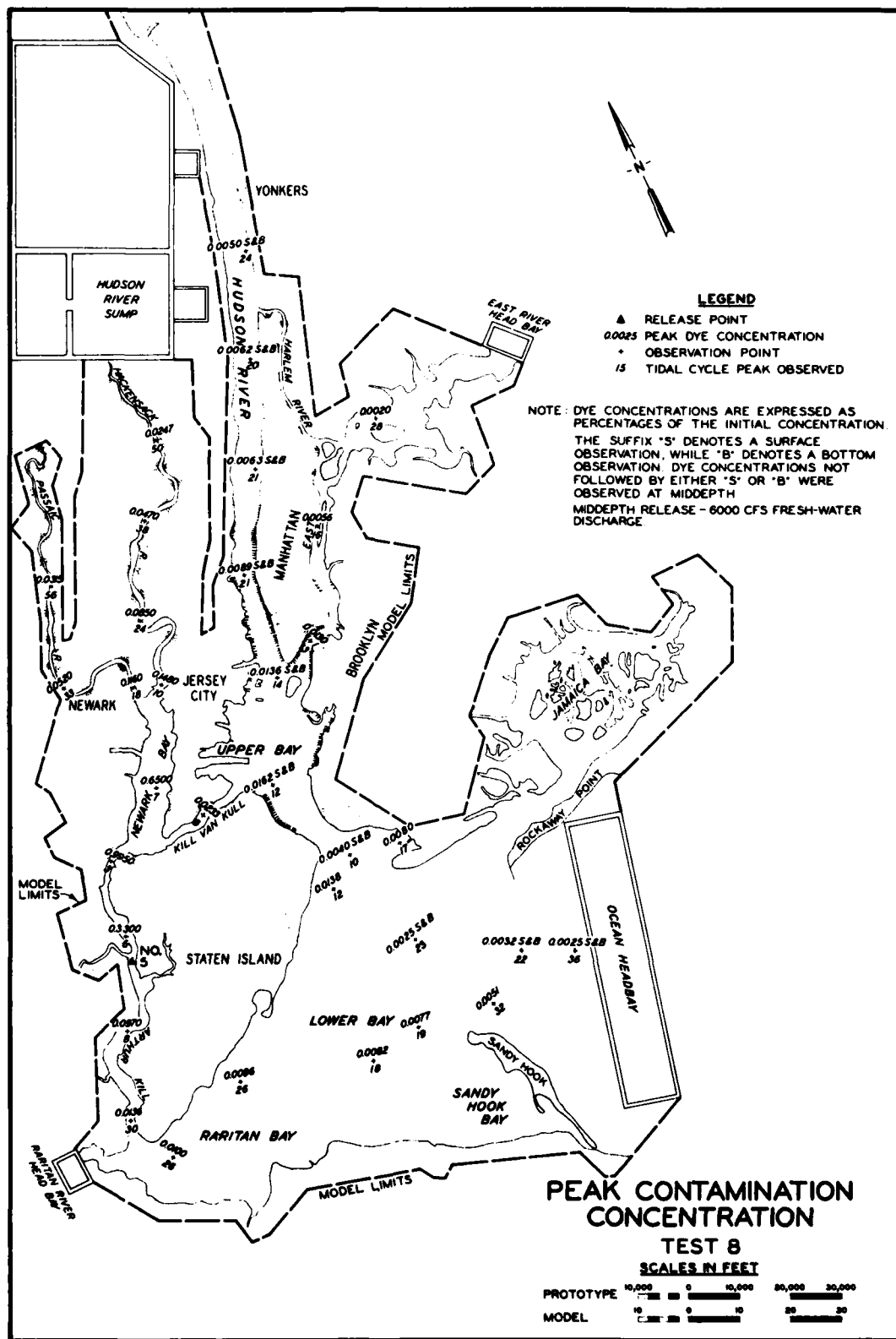


PLATE 8





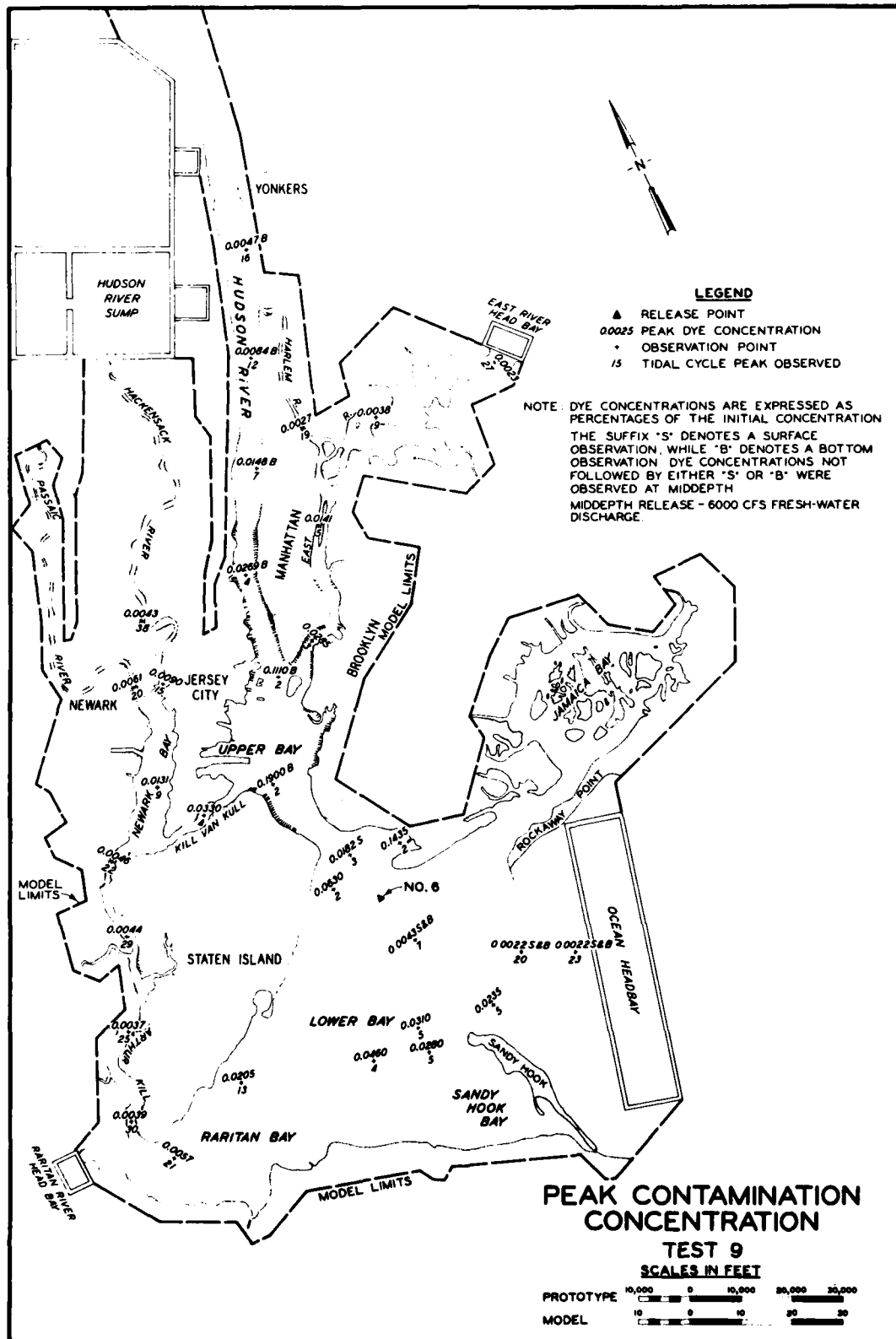
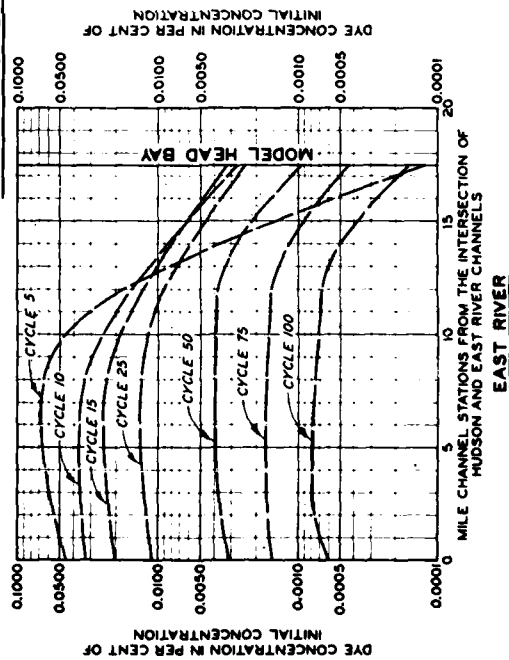
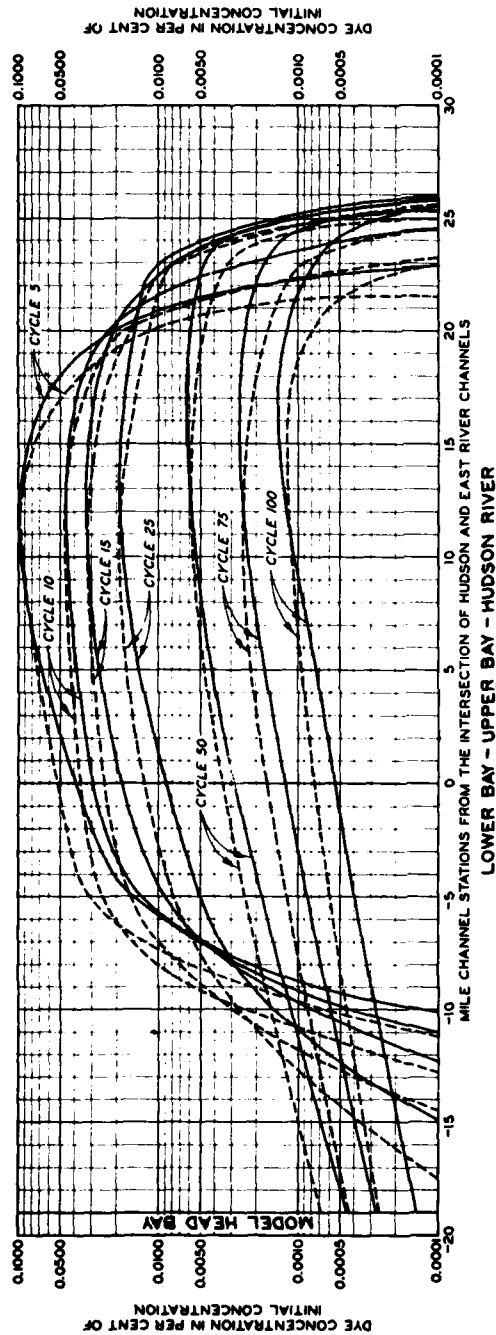


PLATE 10

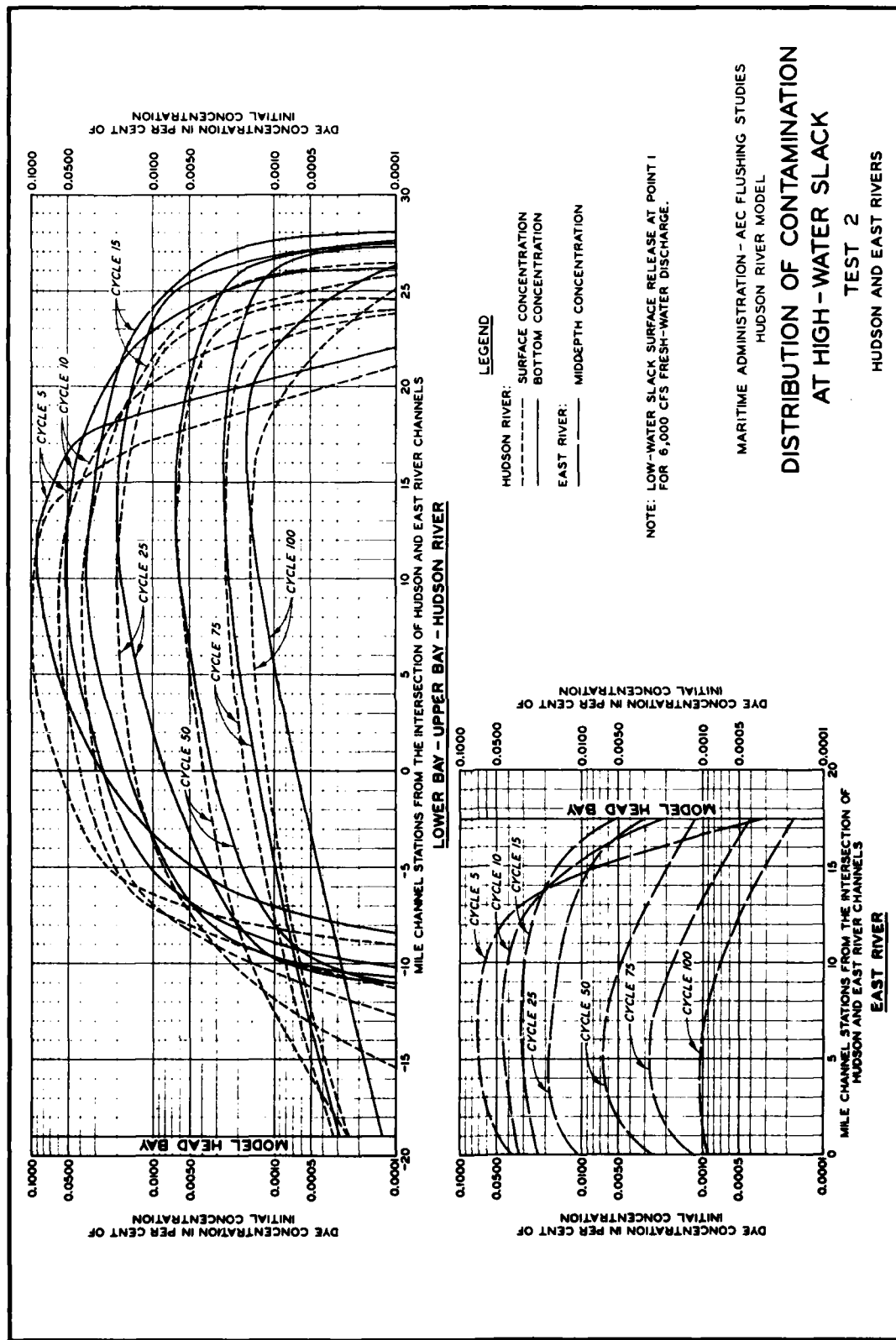


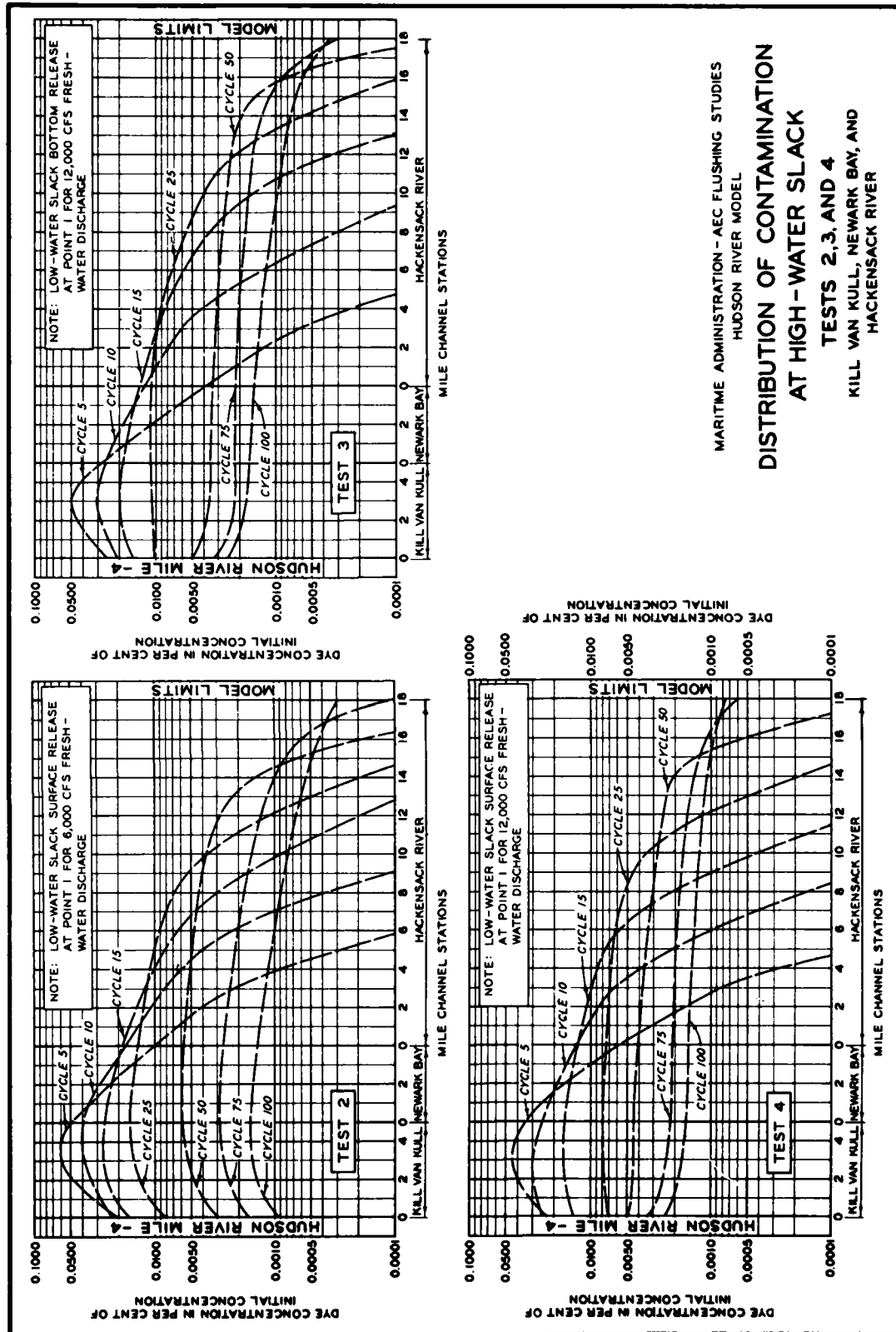
LEGEND  
 HUDSON RIVER:  
 SURFACE CONCENTRATION  
 BOTTOM CONCENTRATION  
 EAST RIVER:  
 MIDDEPTH CONCENTRATION

NOTE: LOW-WATER SLACK BOTTOM RELEASE AT POINT 1  
 FOR 6,000 CFS FRESH-WATER DISCHARGE.

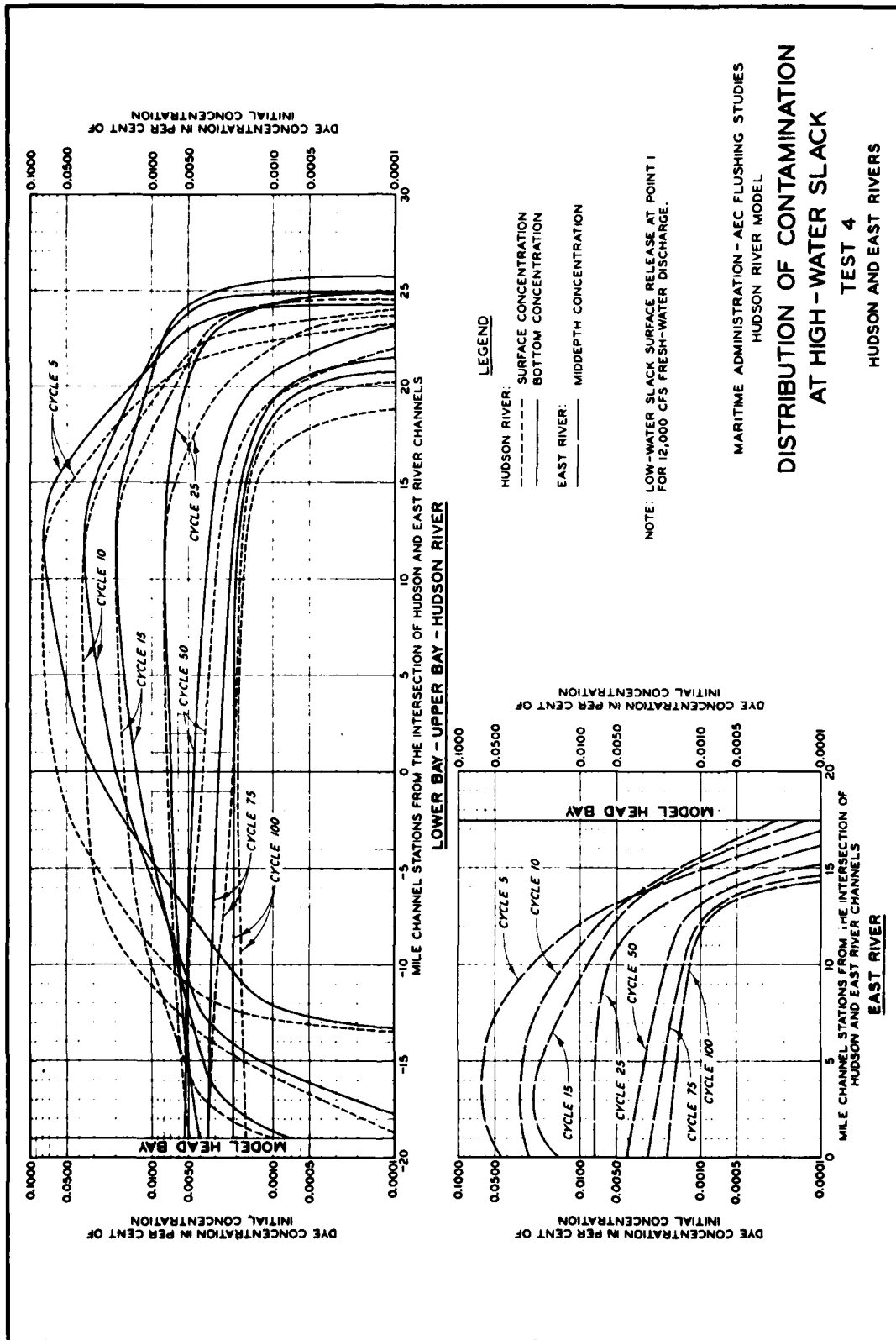
MARITIME ADMINISTRATION - AEC FLUSHING STUDIES  
 HUDSON RIVER MODEL

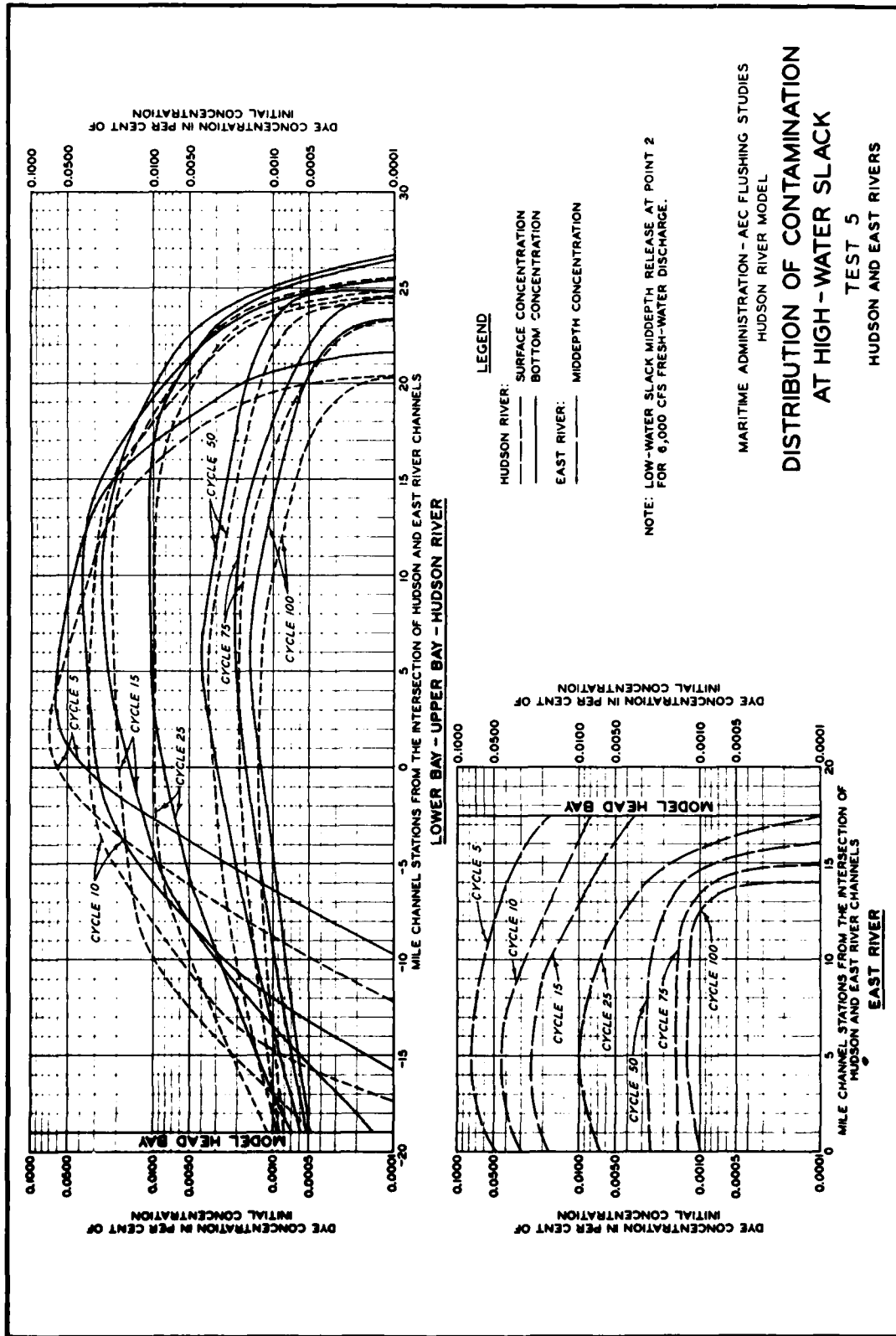
# DISTRIBUTION OF CONTAMINATION AT HIGH-WATER SLACK TEST 1



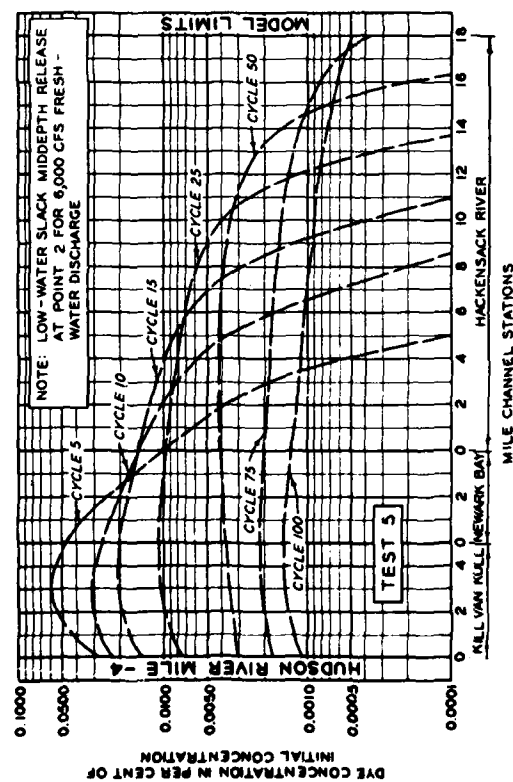
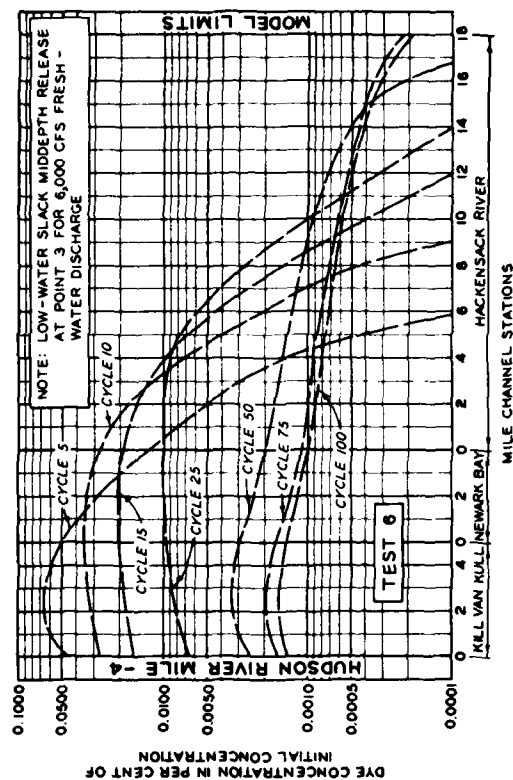












MARITIME ADMINISTRATION - AEC FLUSHING STUDIES  
HUDSON RIVER MODEL

# DISTRIBUTION OF CONTAMINATION AT HIGH - WATER SLACK

TESTS 5 AND 6

KILL VAN KULL, NEWARK BAY, AND  
HACKENSACK RIVER

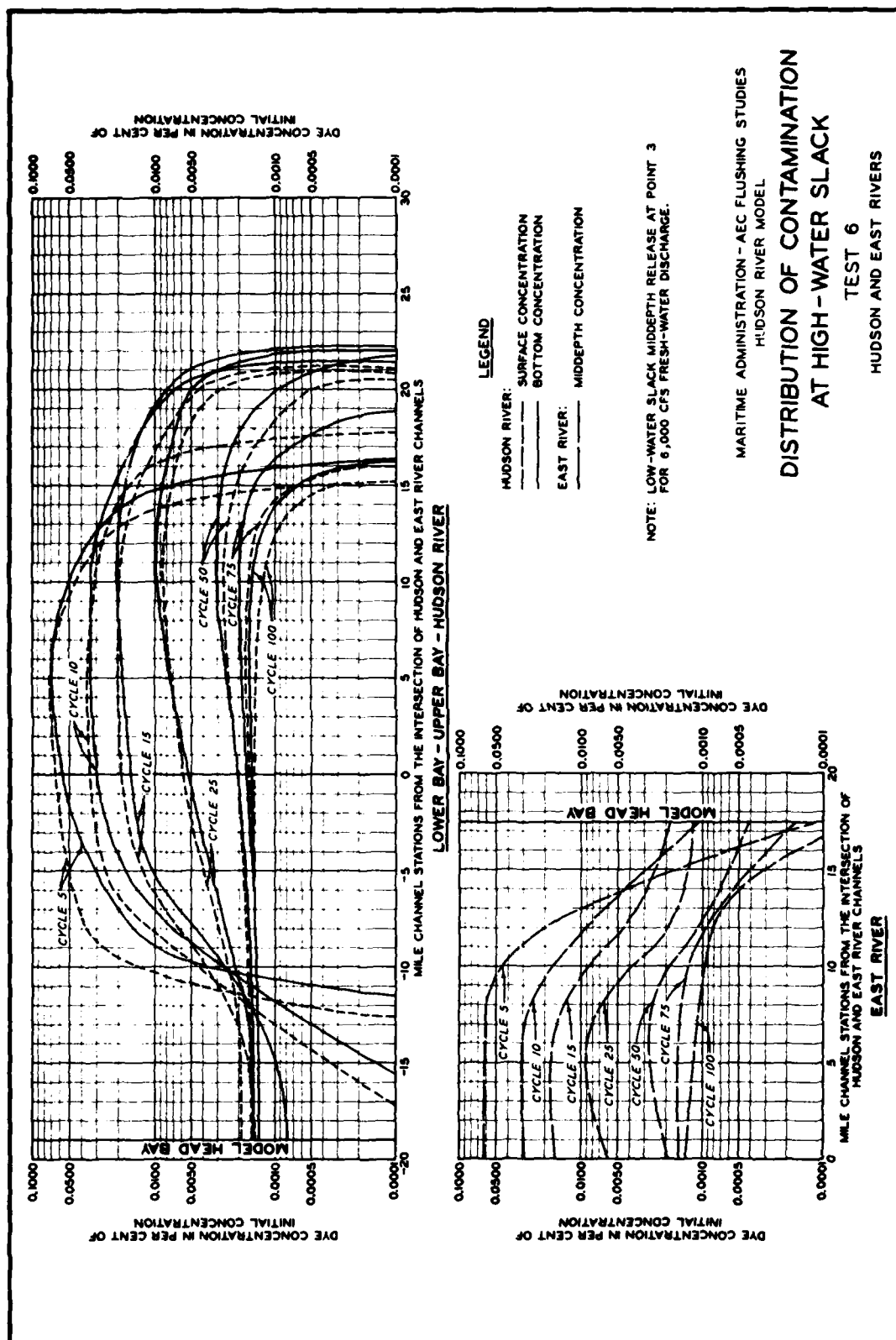
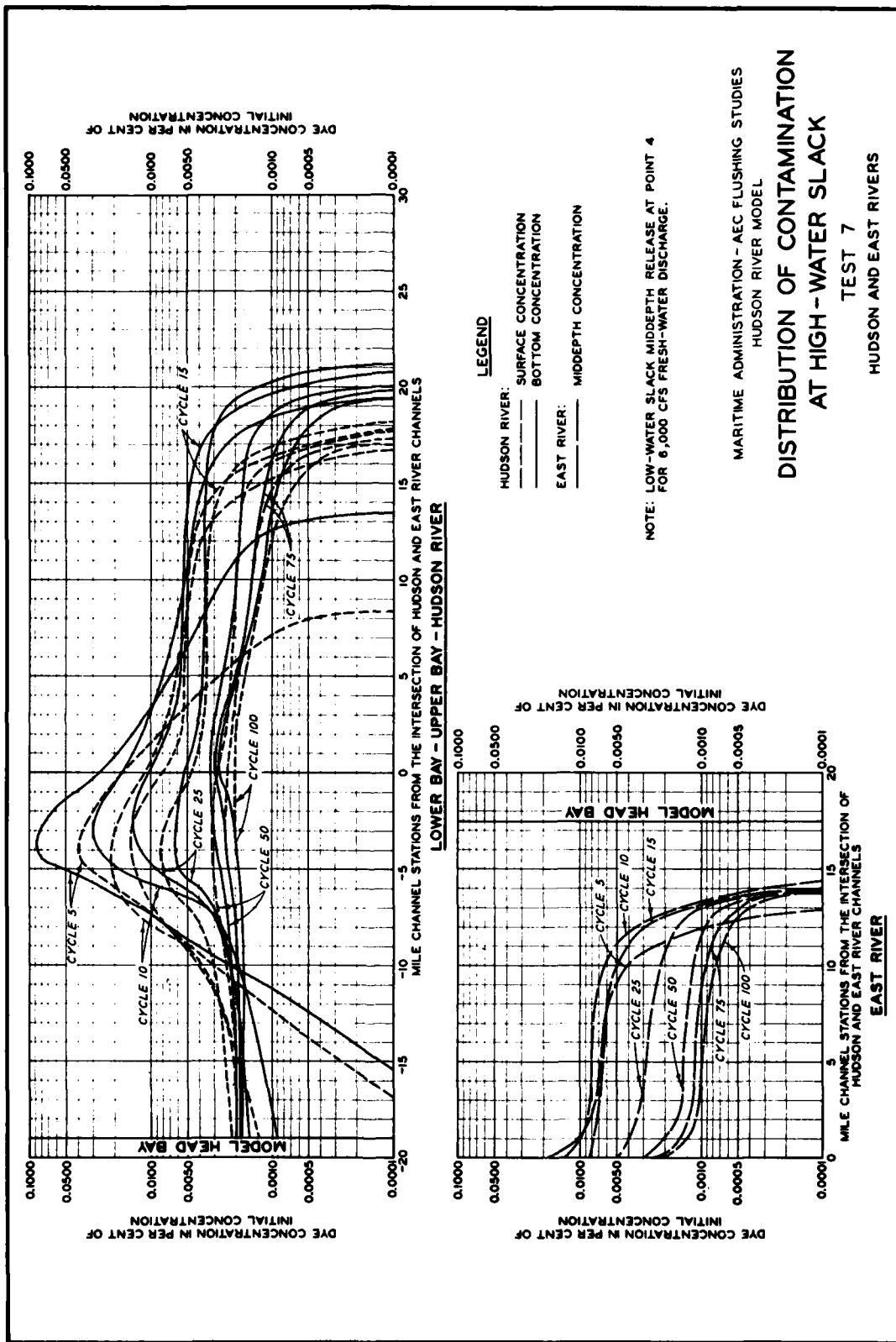
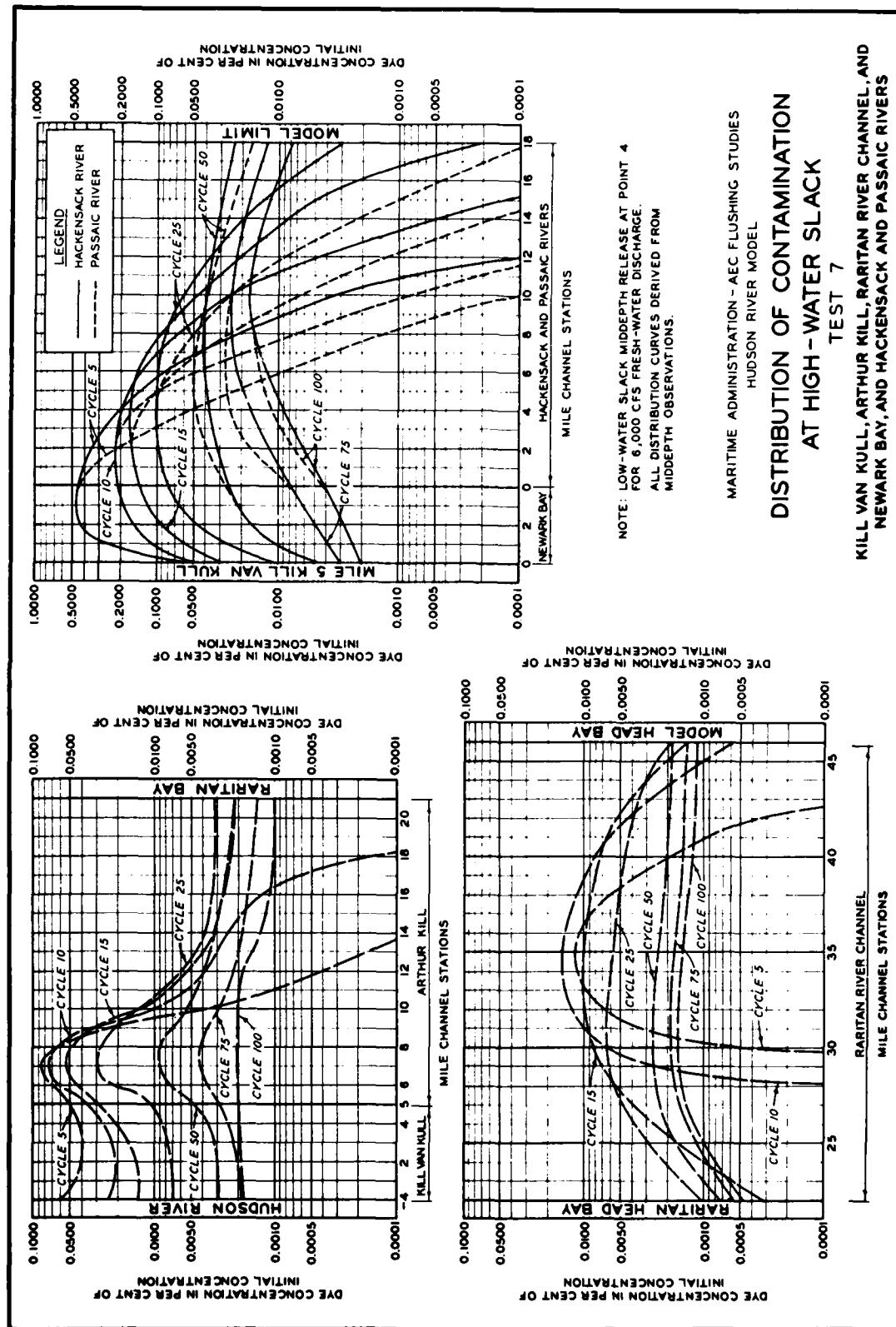
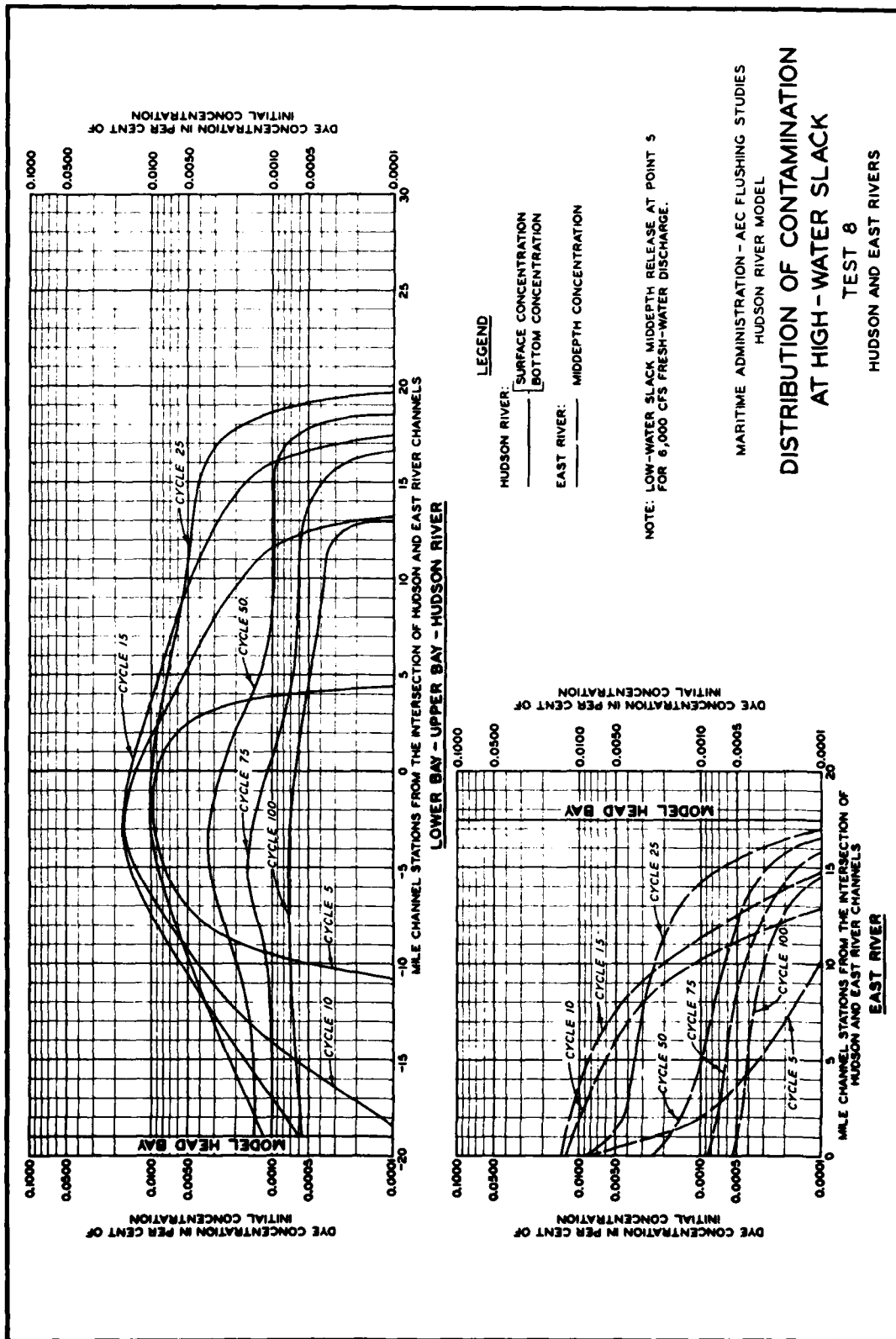
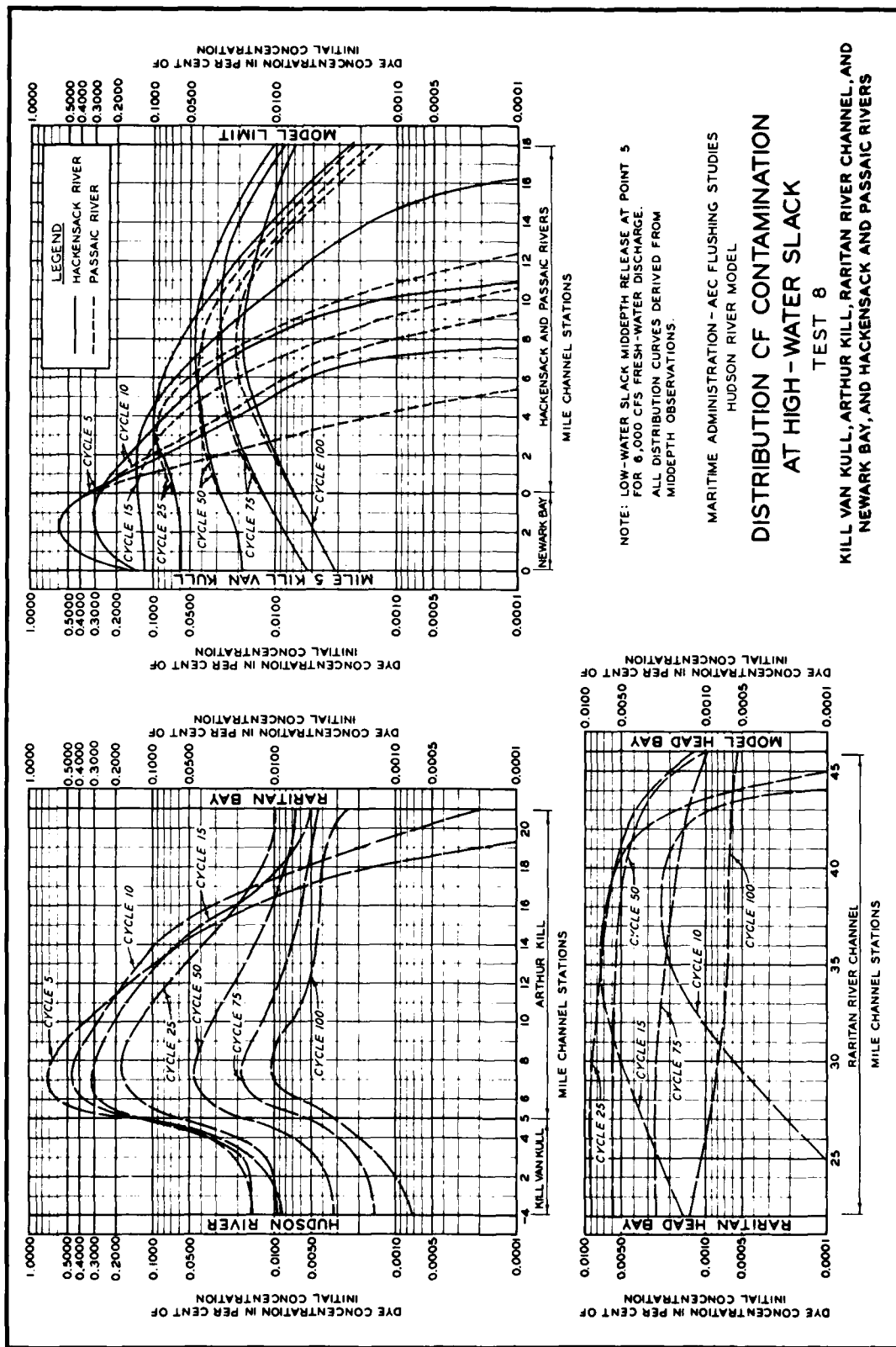


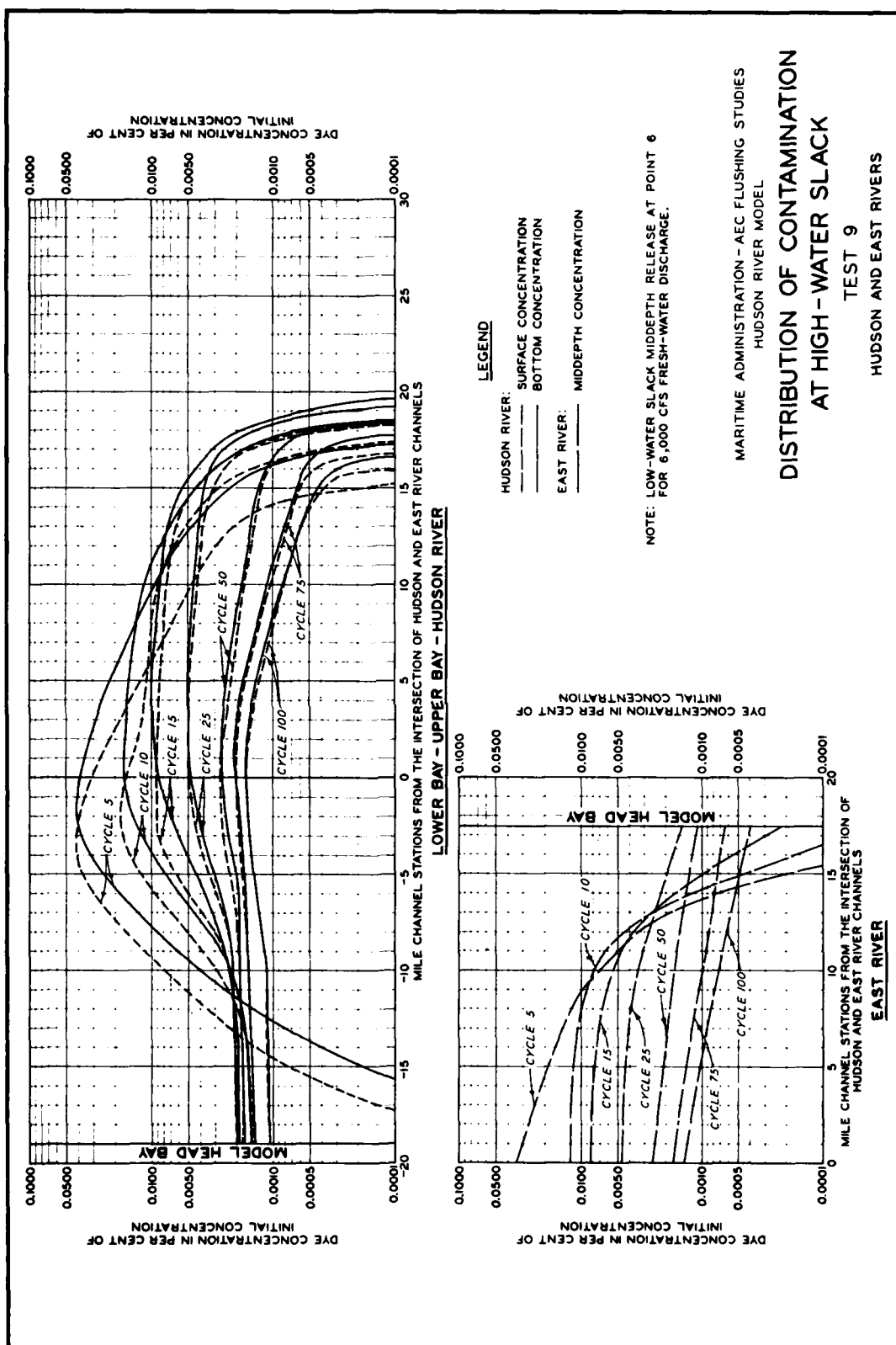
PLATE 18.

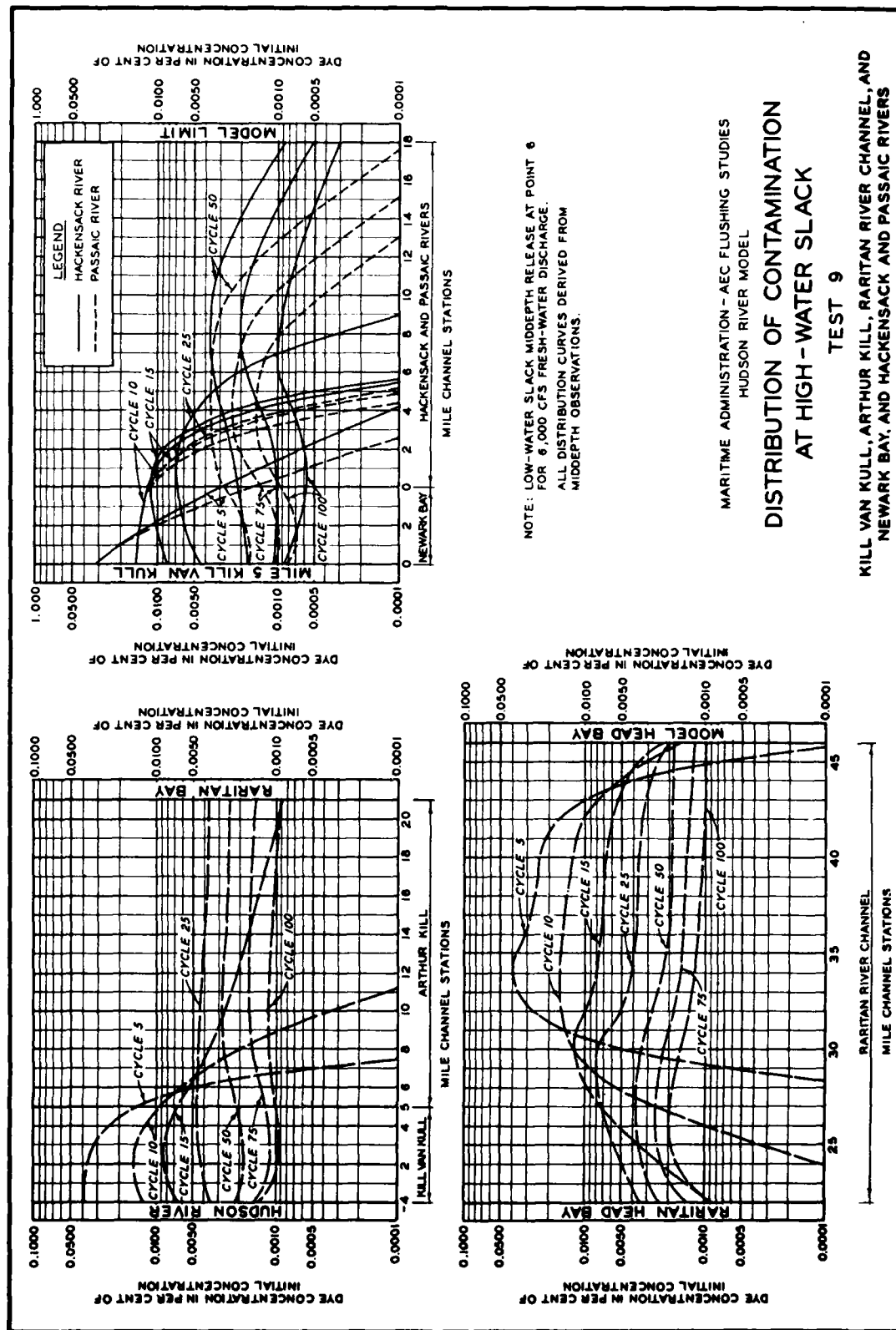




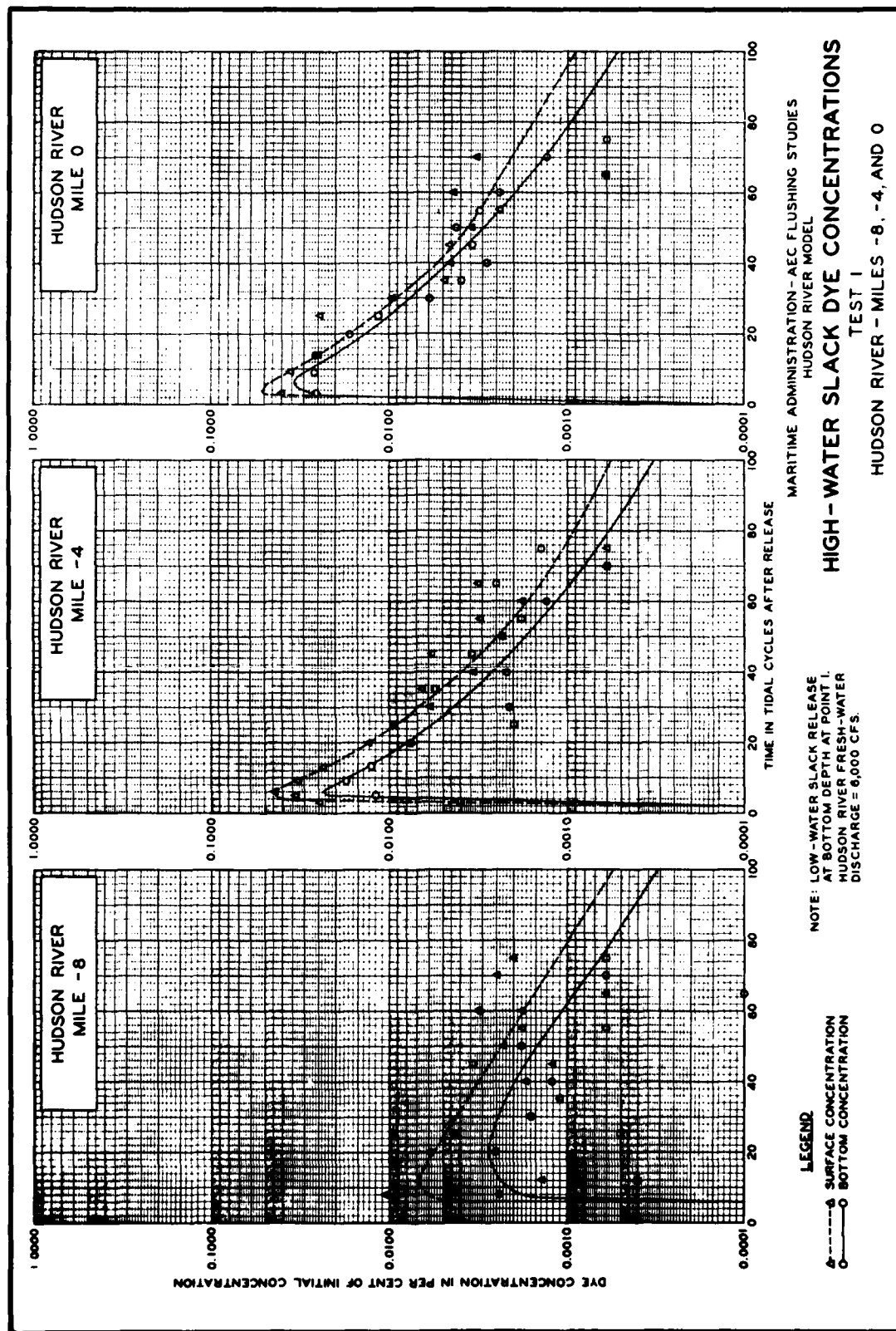


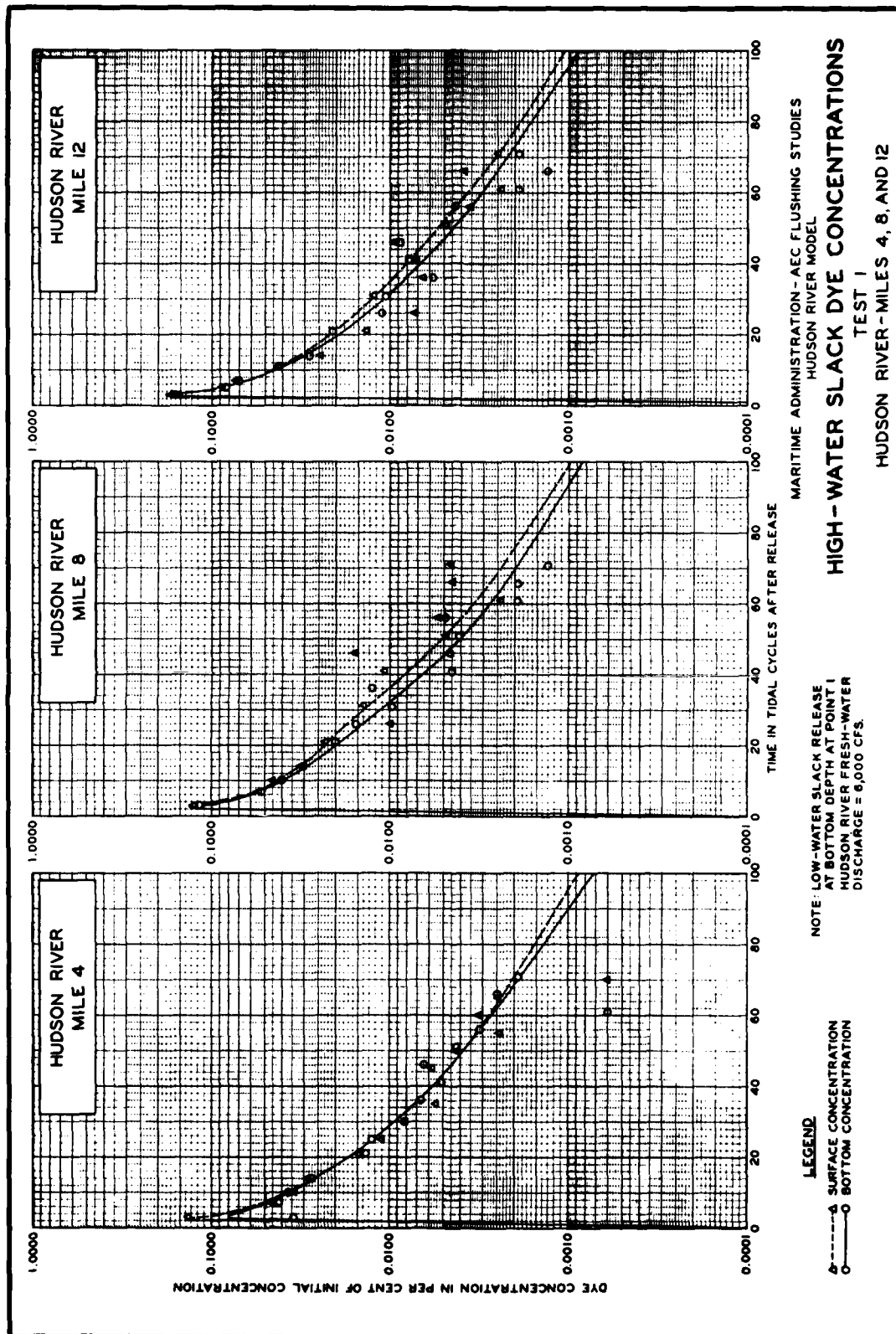


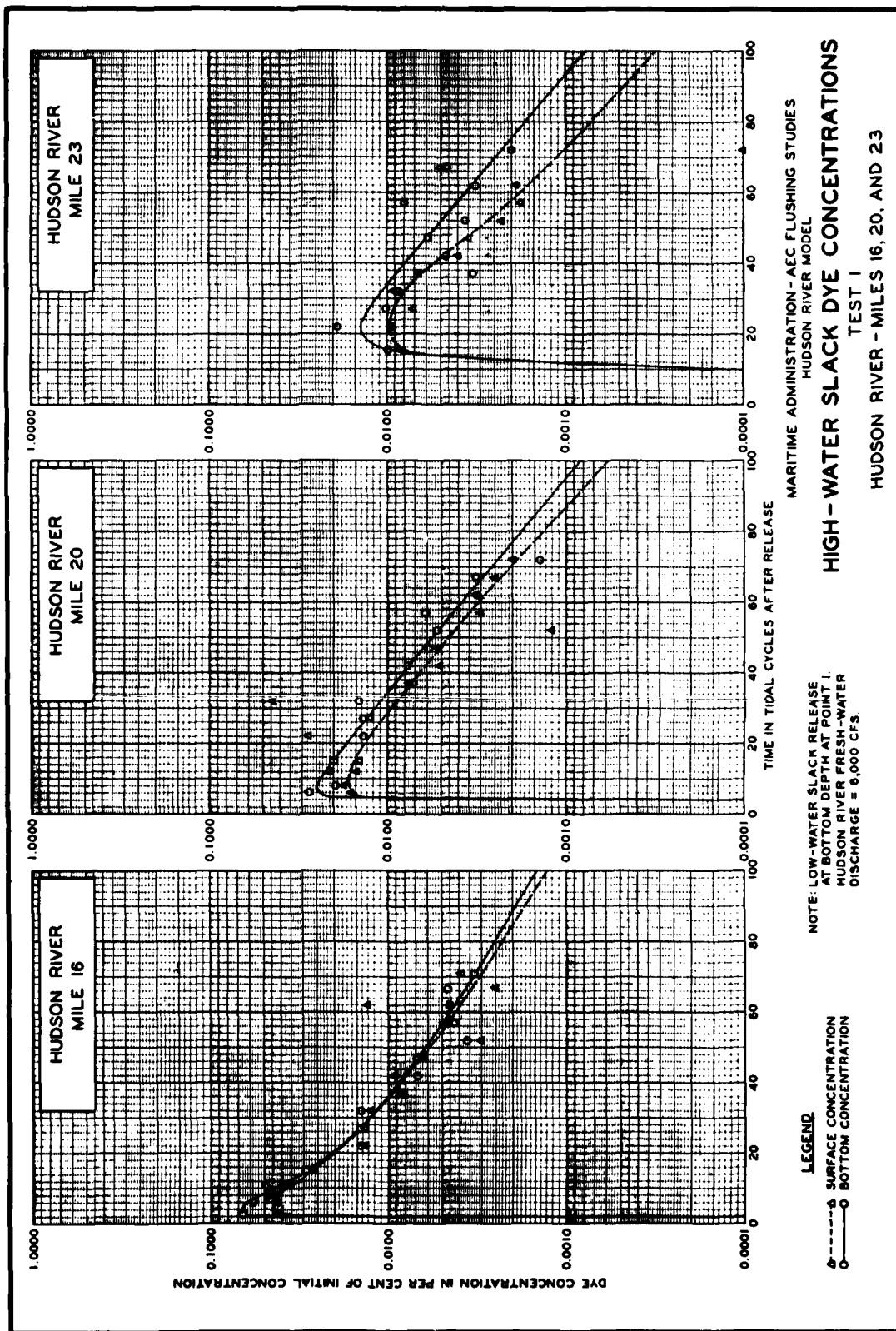


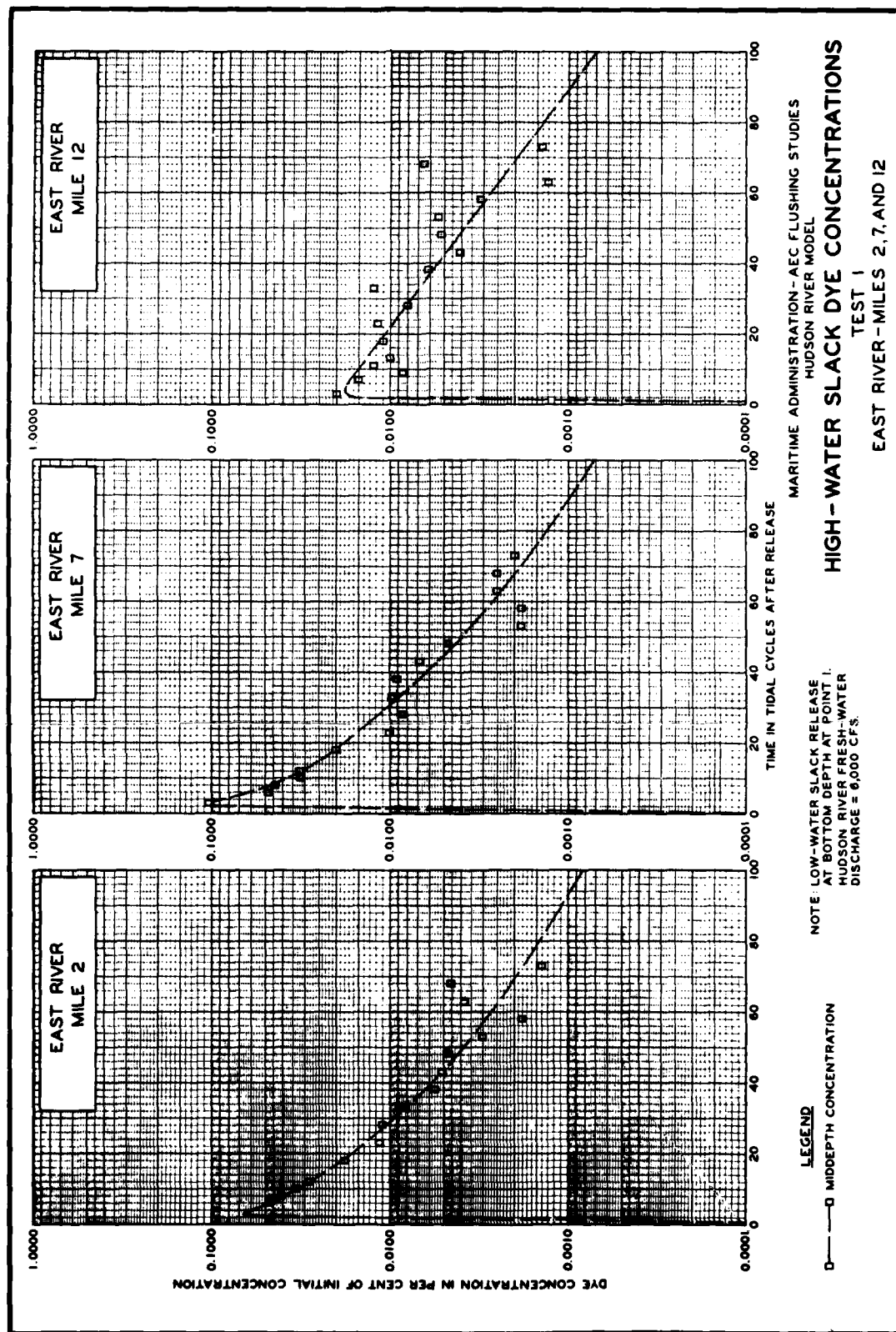


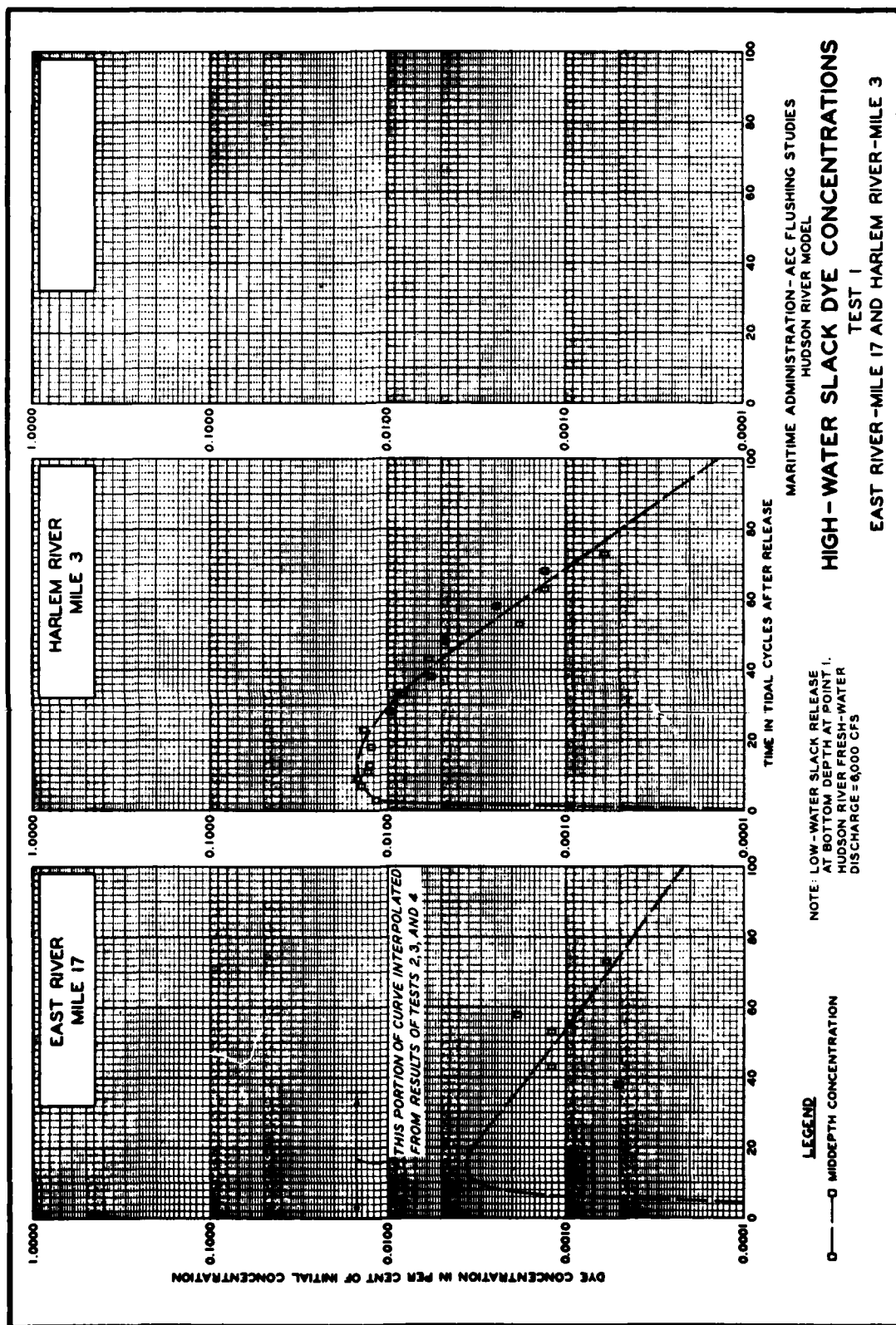


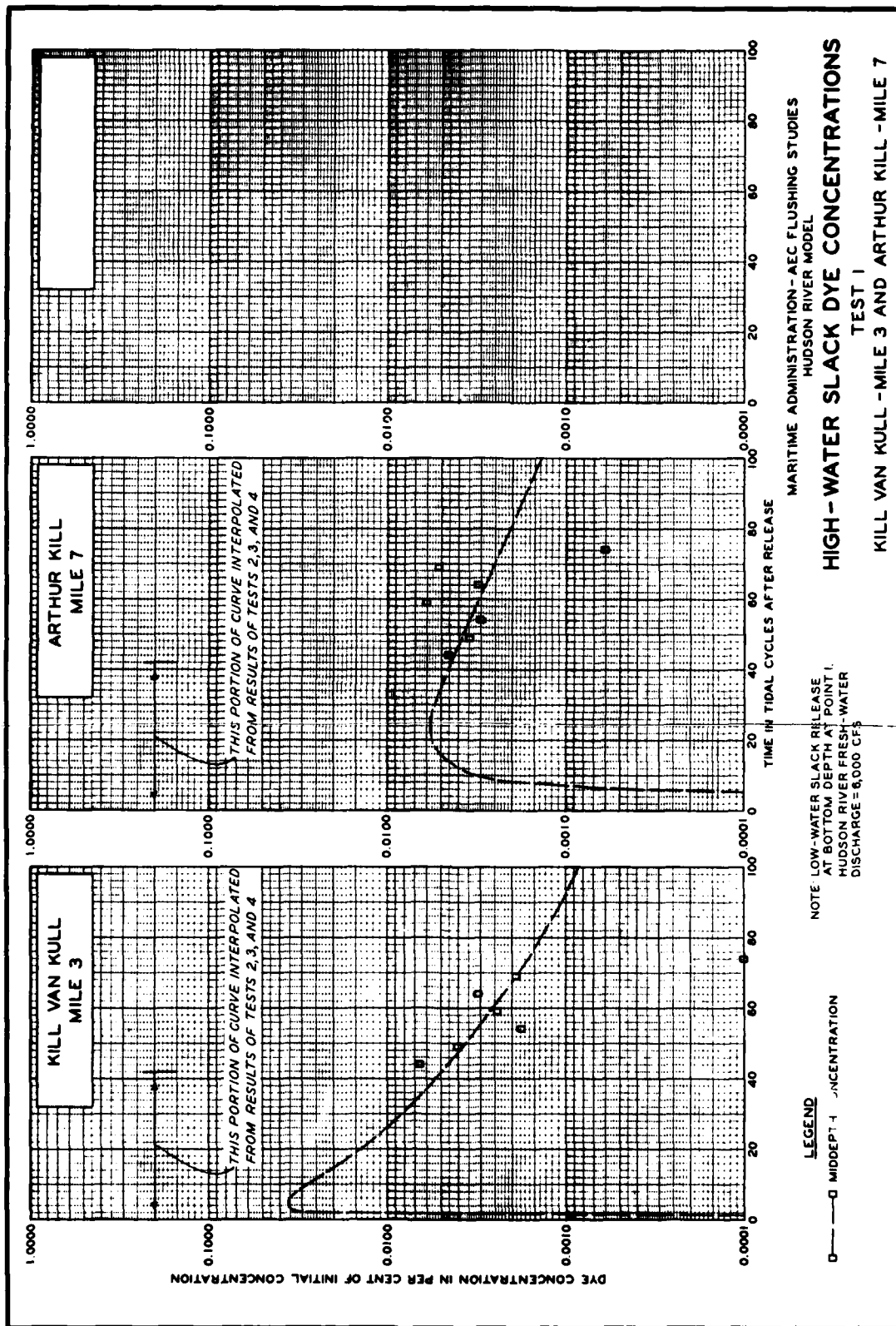


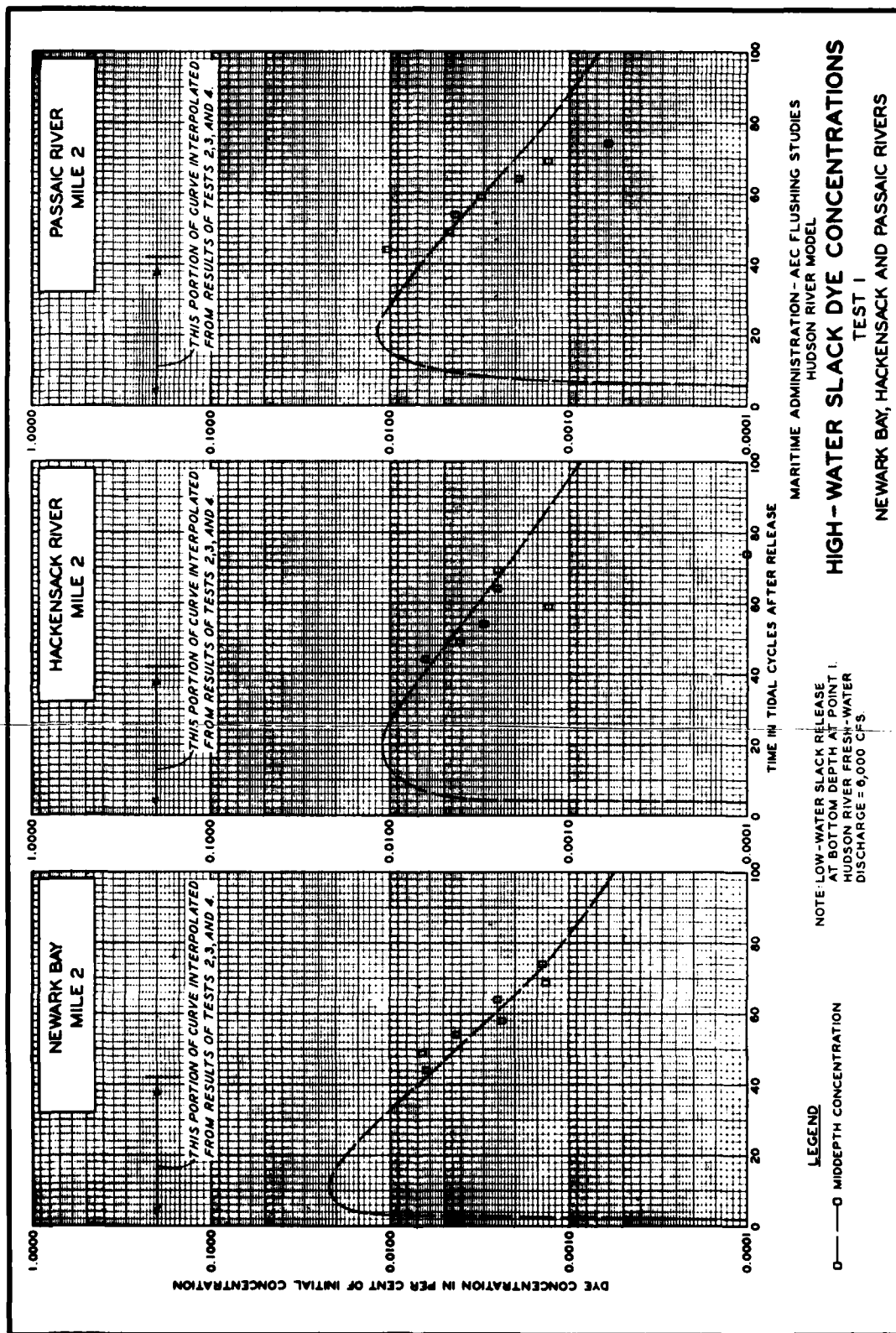




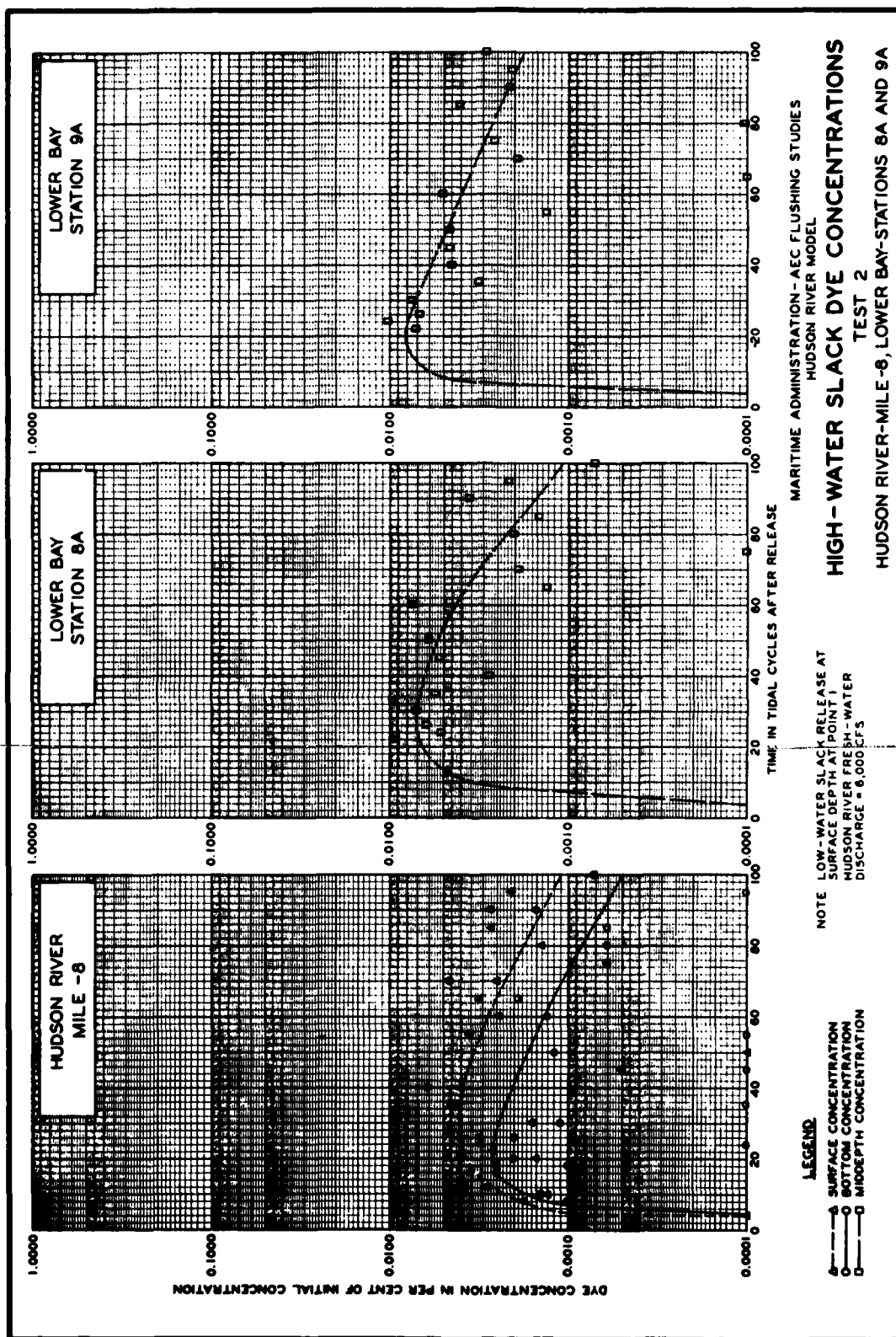




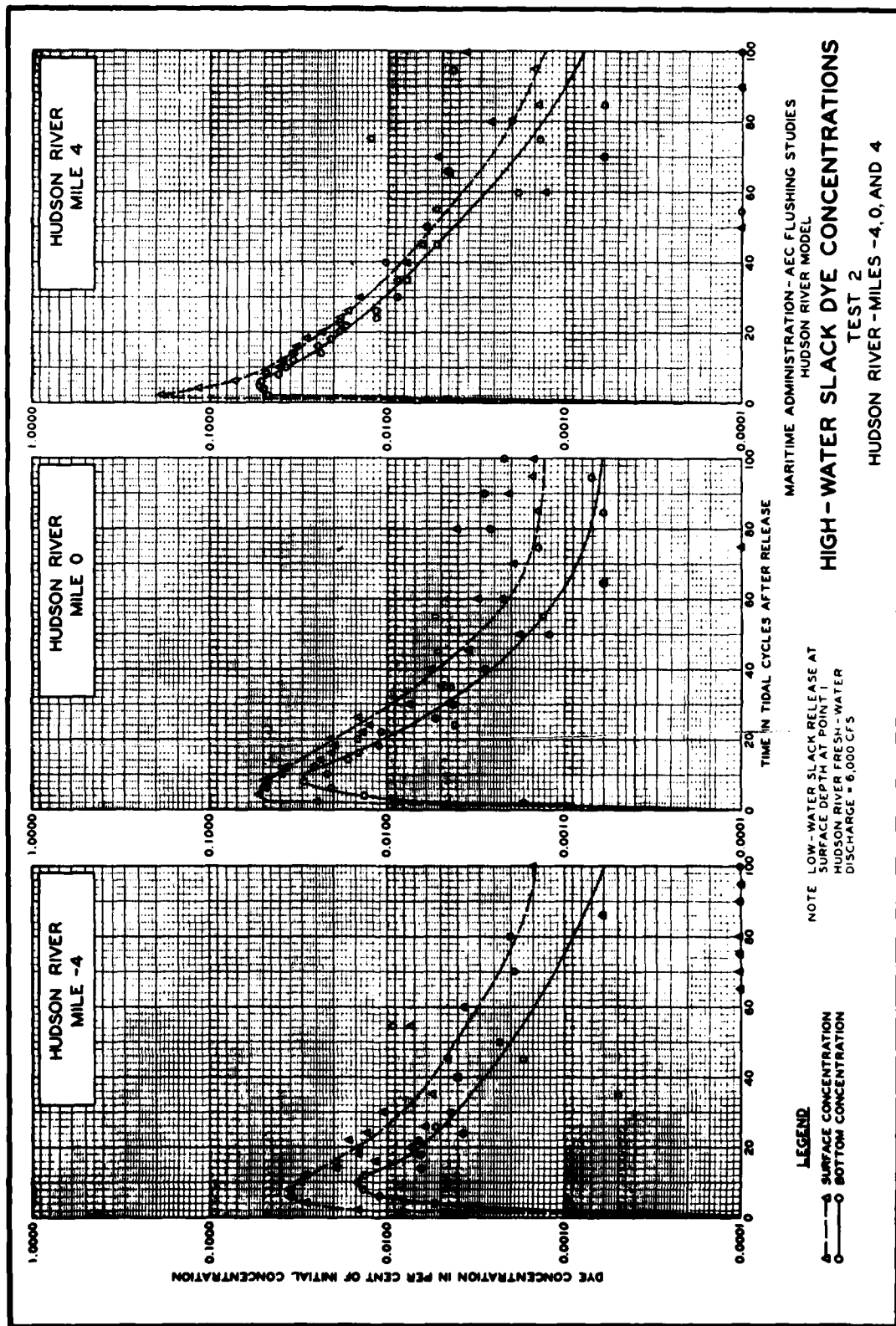


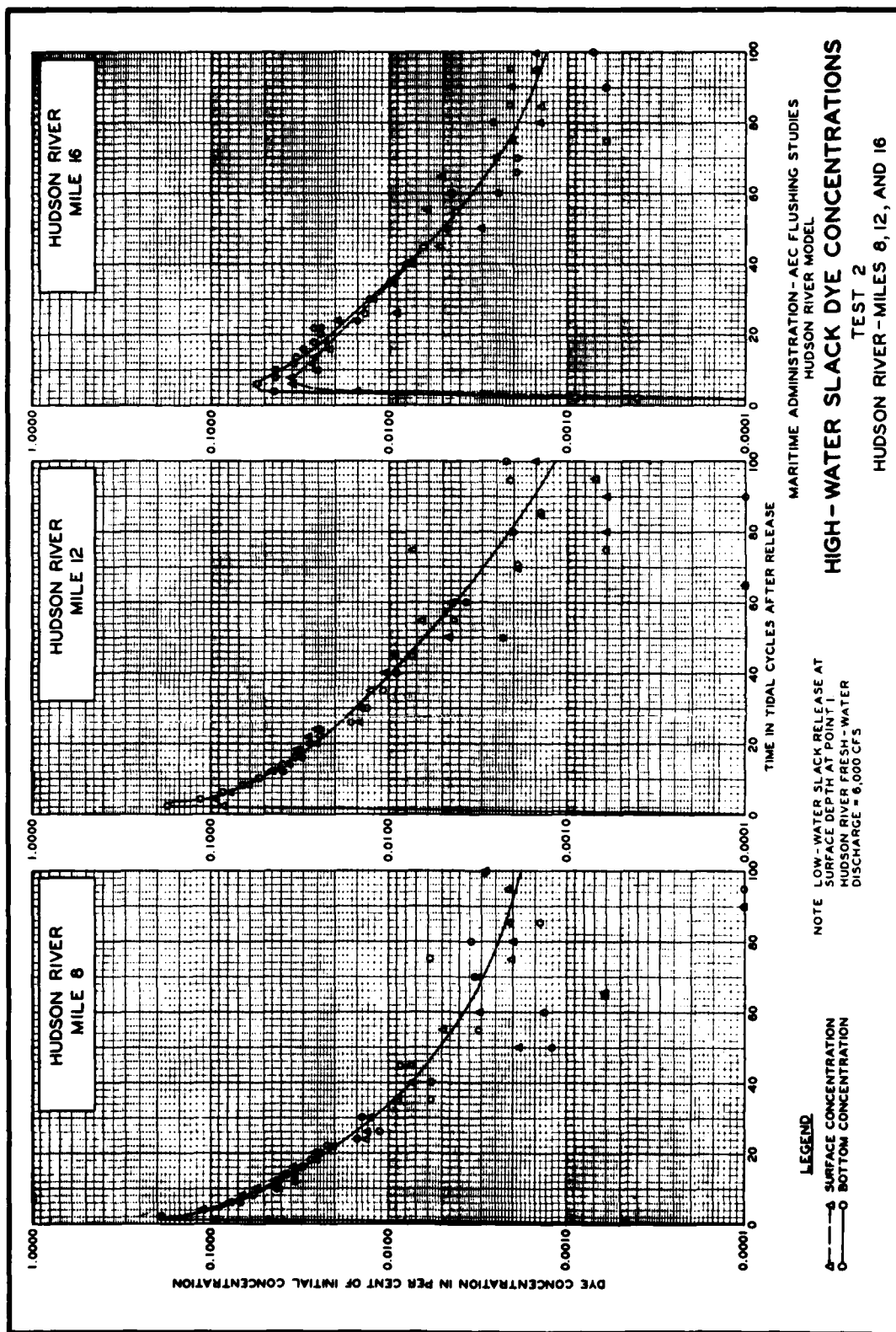


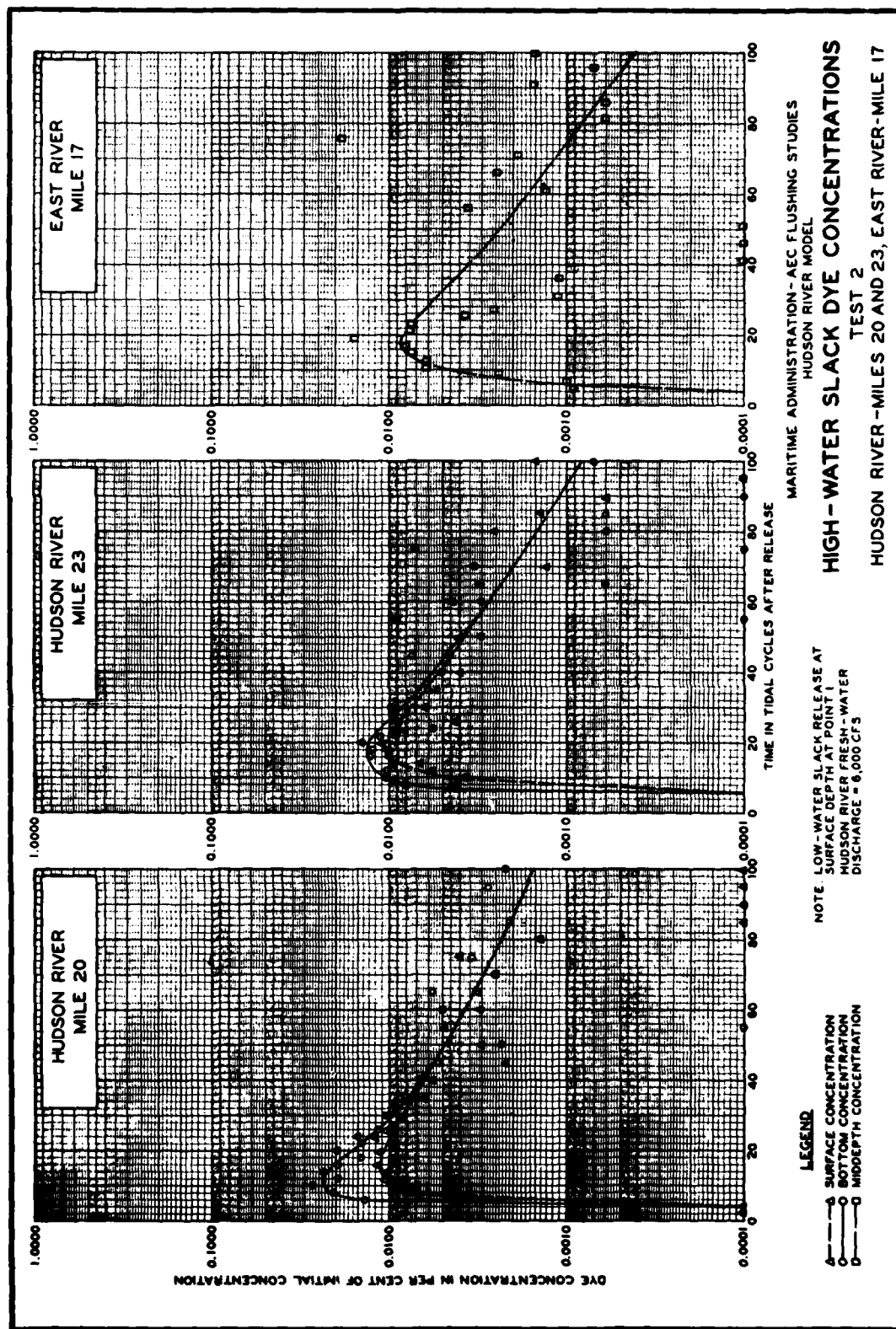


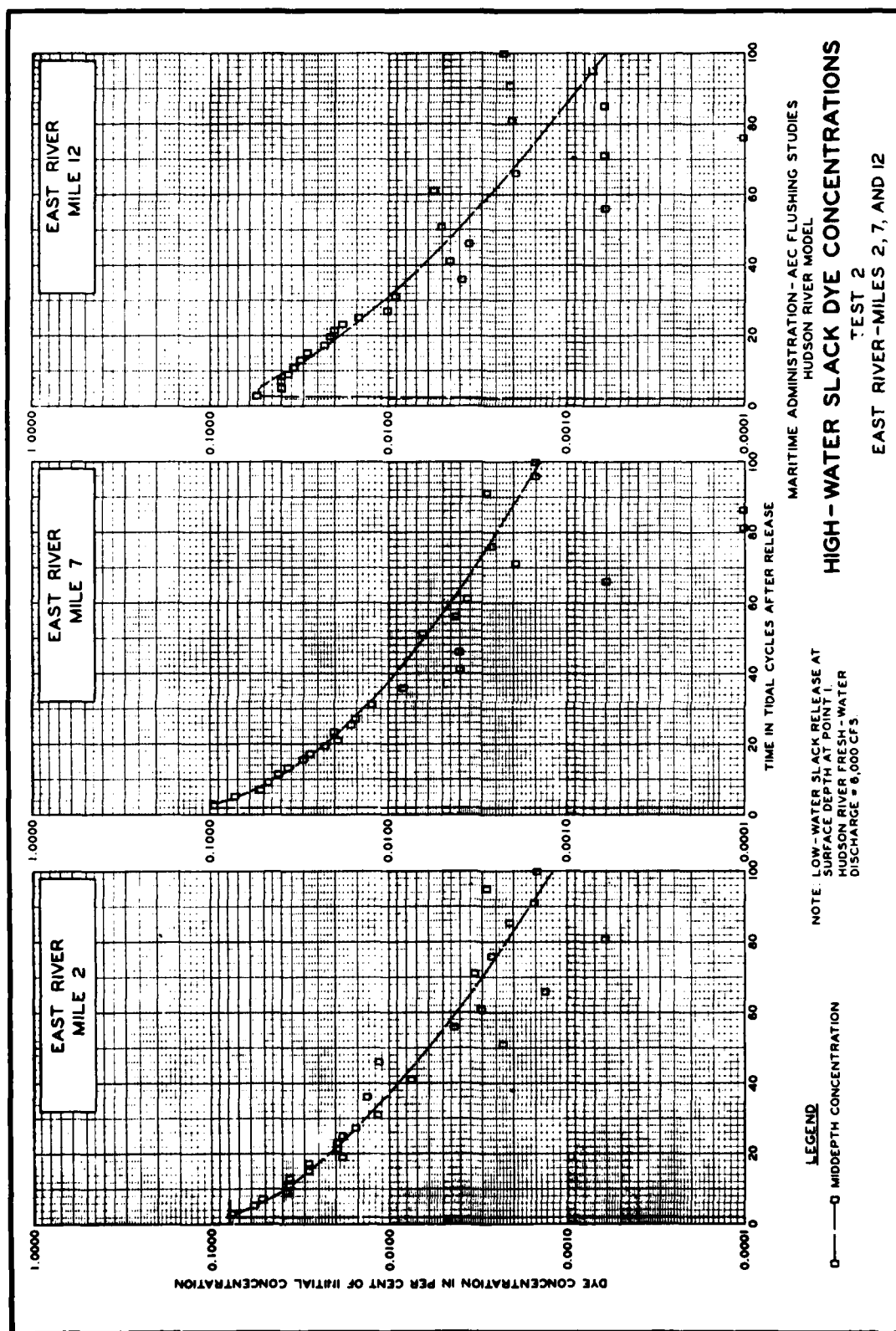


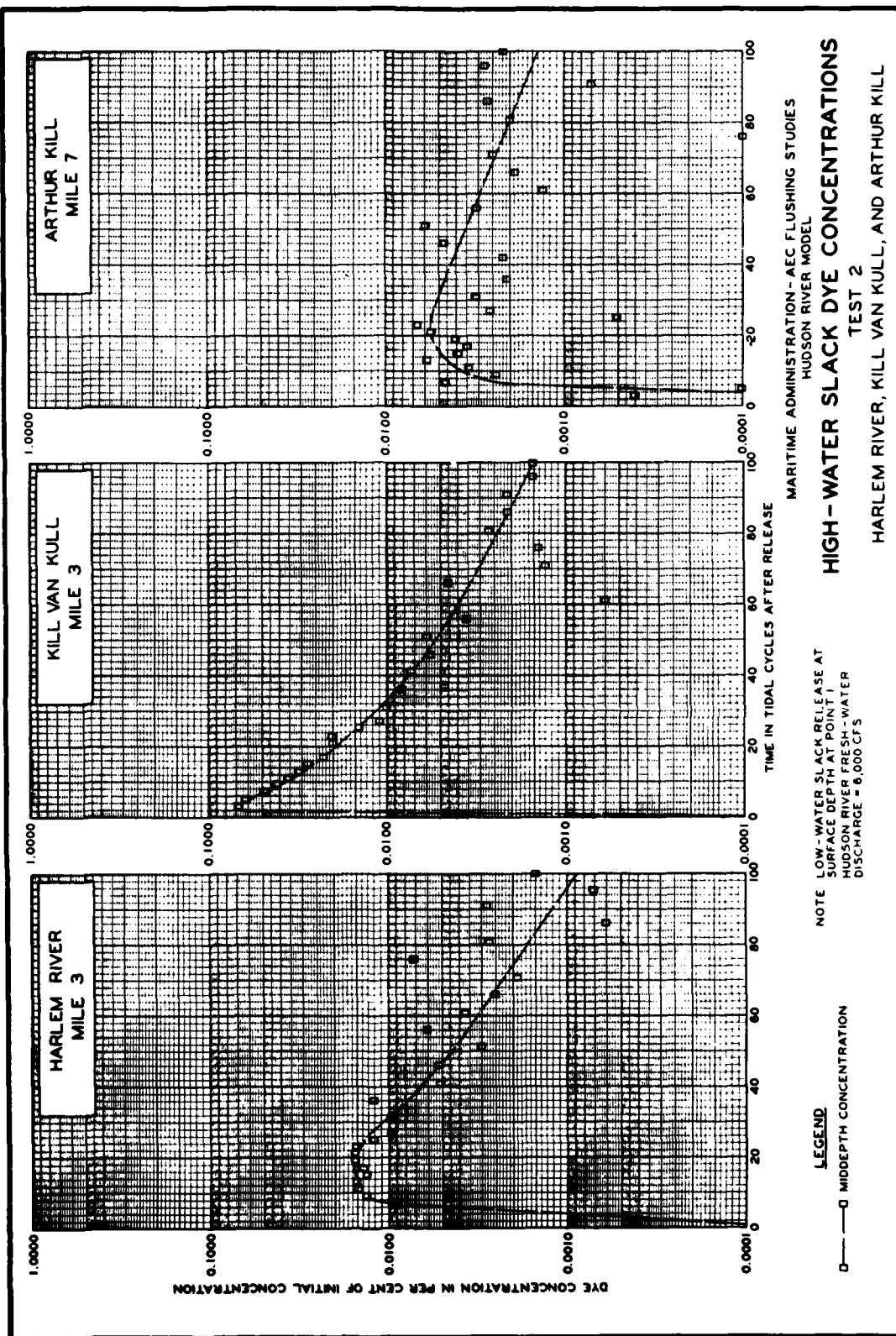


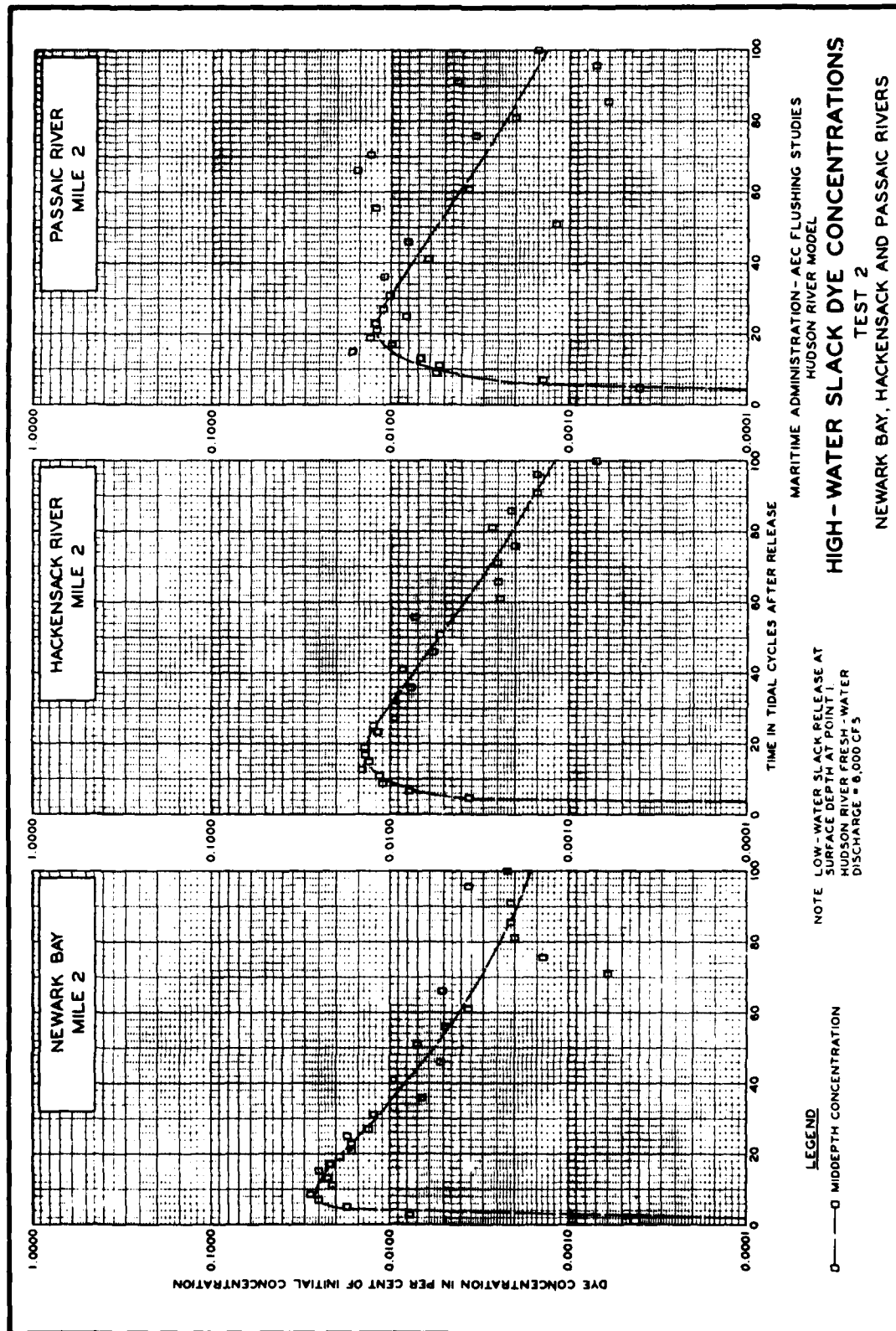












AD-A081 412 ARMY ENGINEER WATERWAYS EXPERIMENT STATION VICKSBURG MS F/G 8/8  
CONTAMINATION DISPERSION IN ESTUARIES NEW YORK HARBOR, HYDRAULI--ETC(U)  
JAN 61

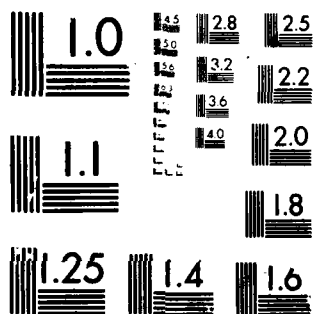
UNCLASSIFIED WES-MP-2-332-3

NIL

AD

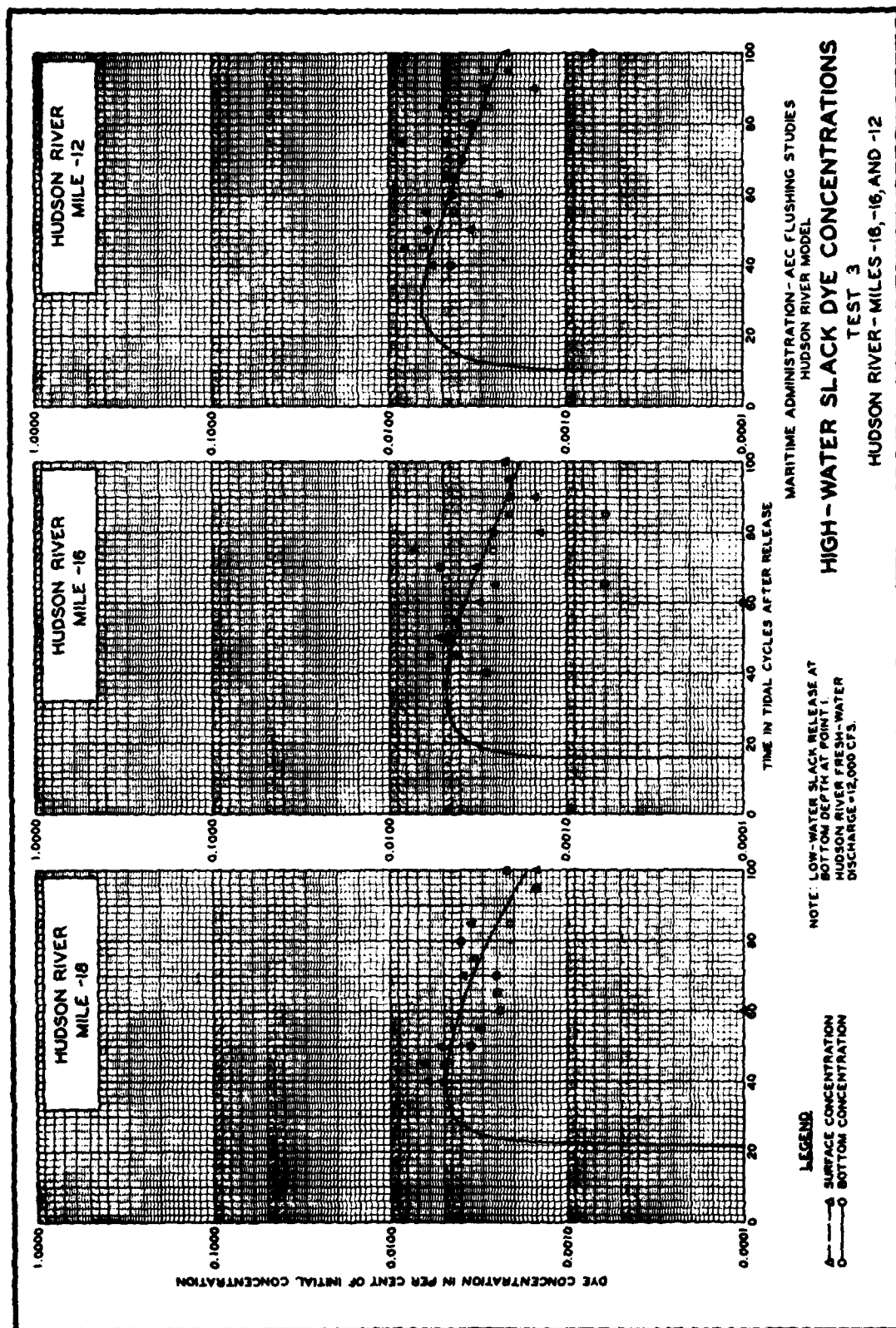
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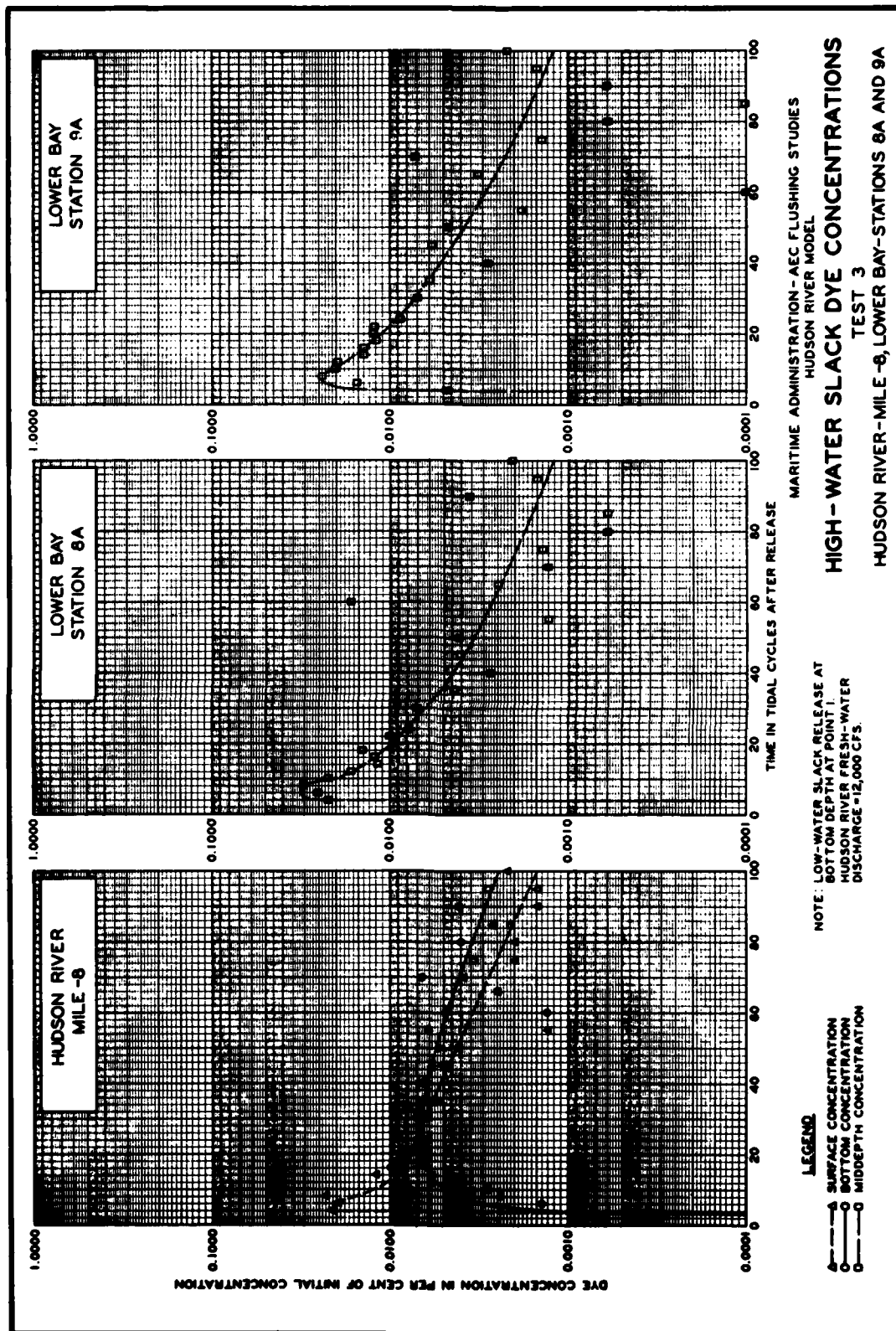
END  
DATE  
FILMED  
4-80  
DTIC

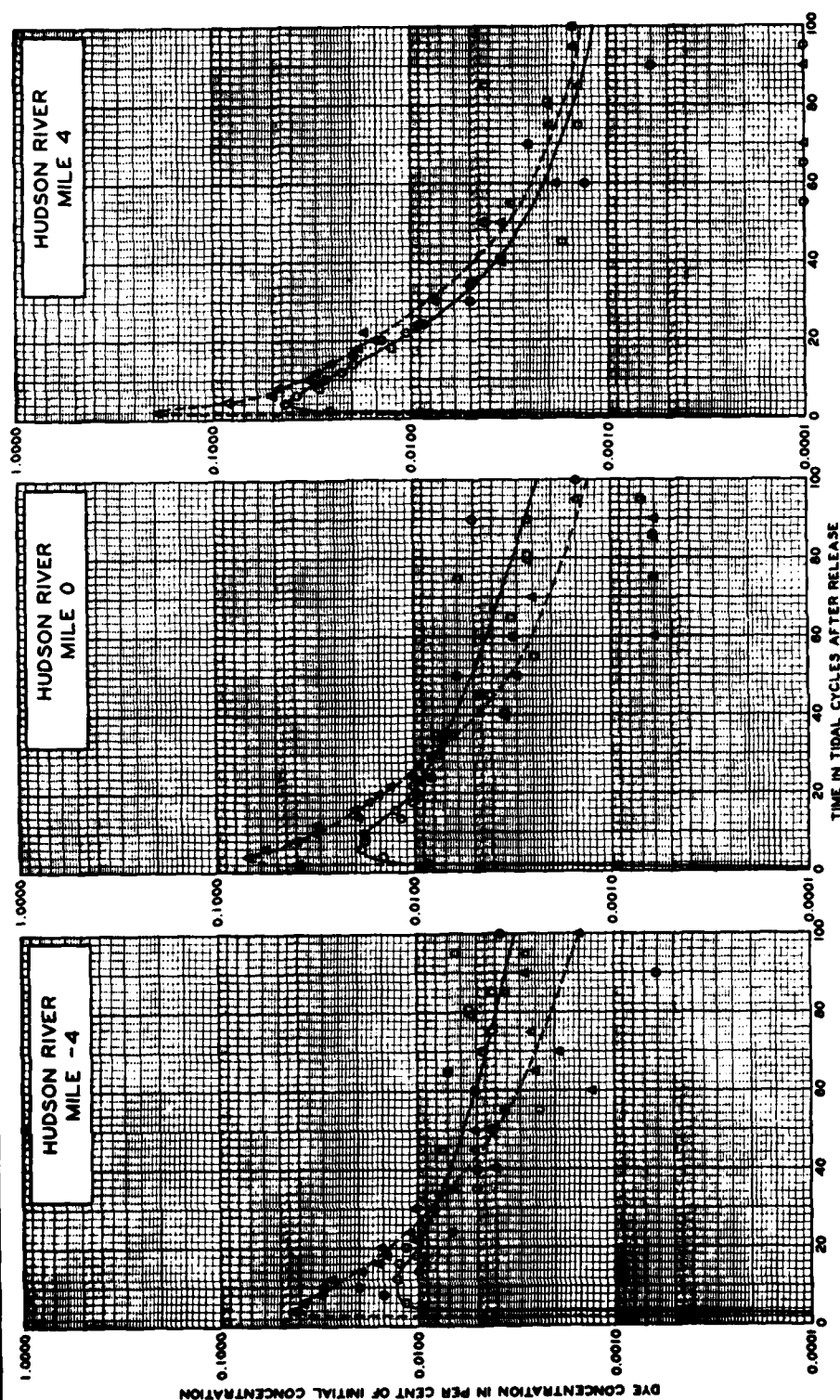


MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS-1963-A







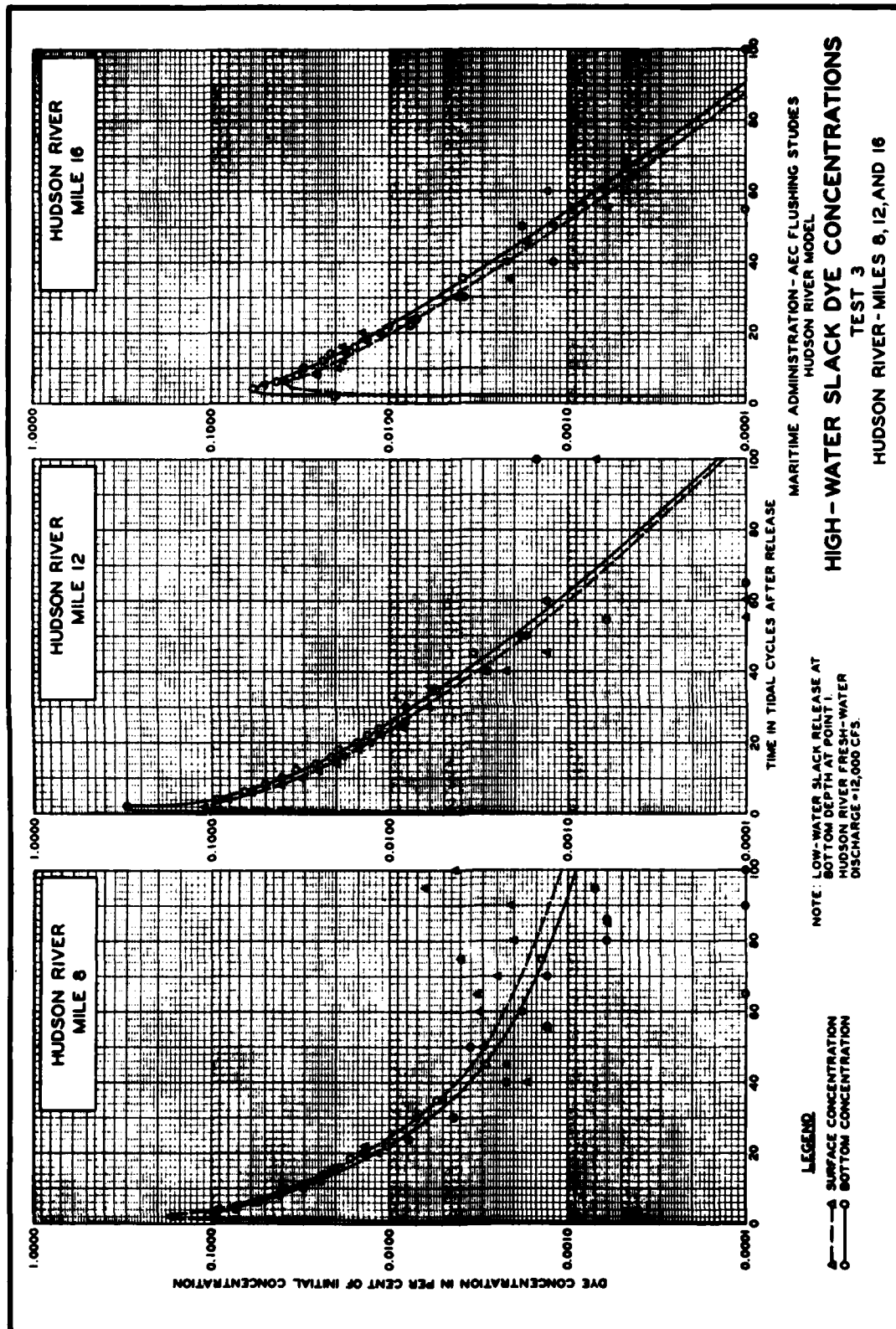


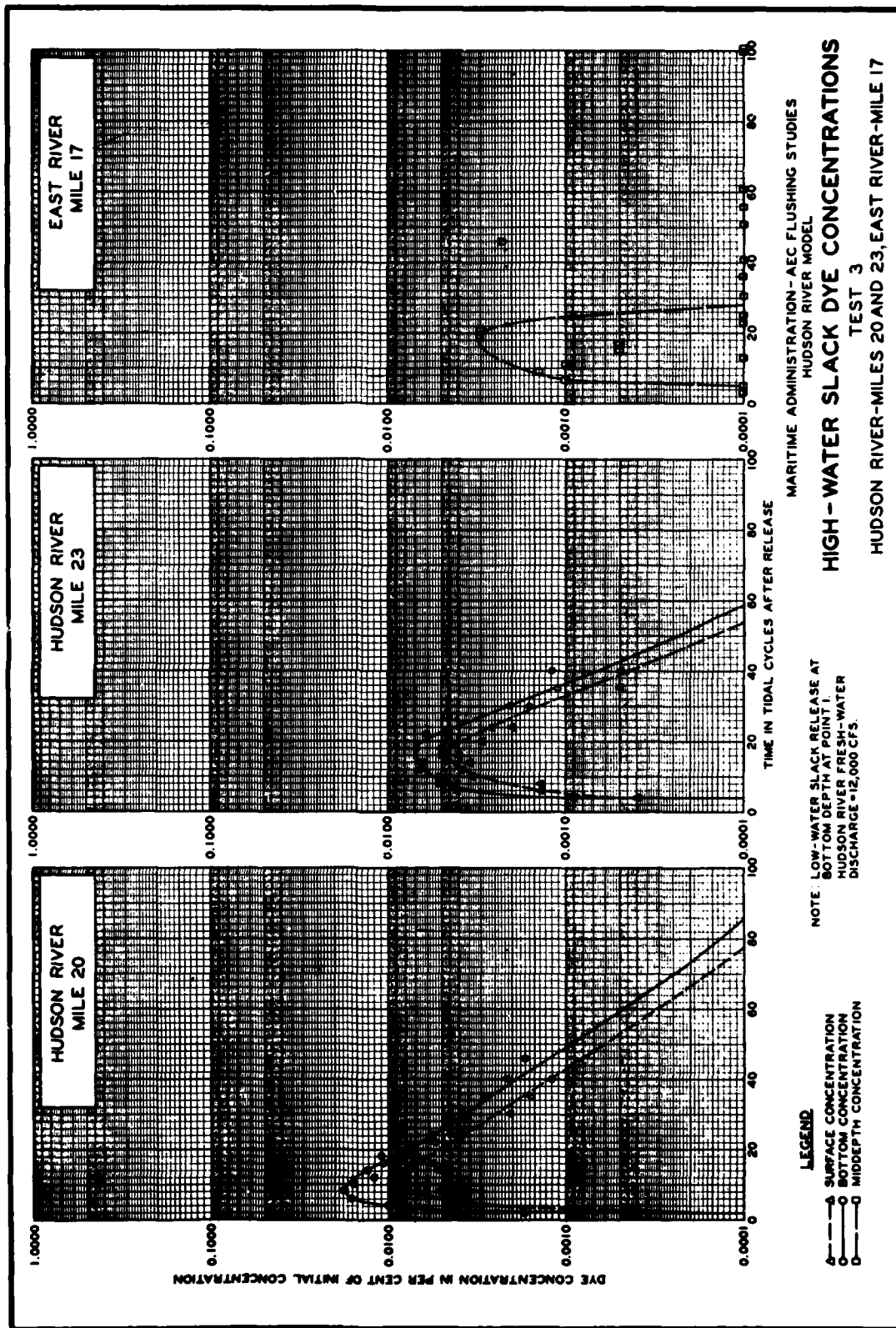
**LEGEND**

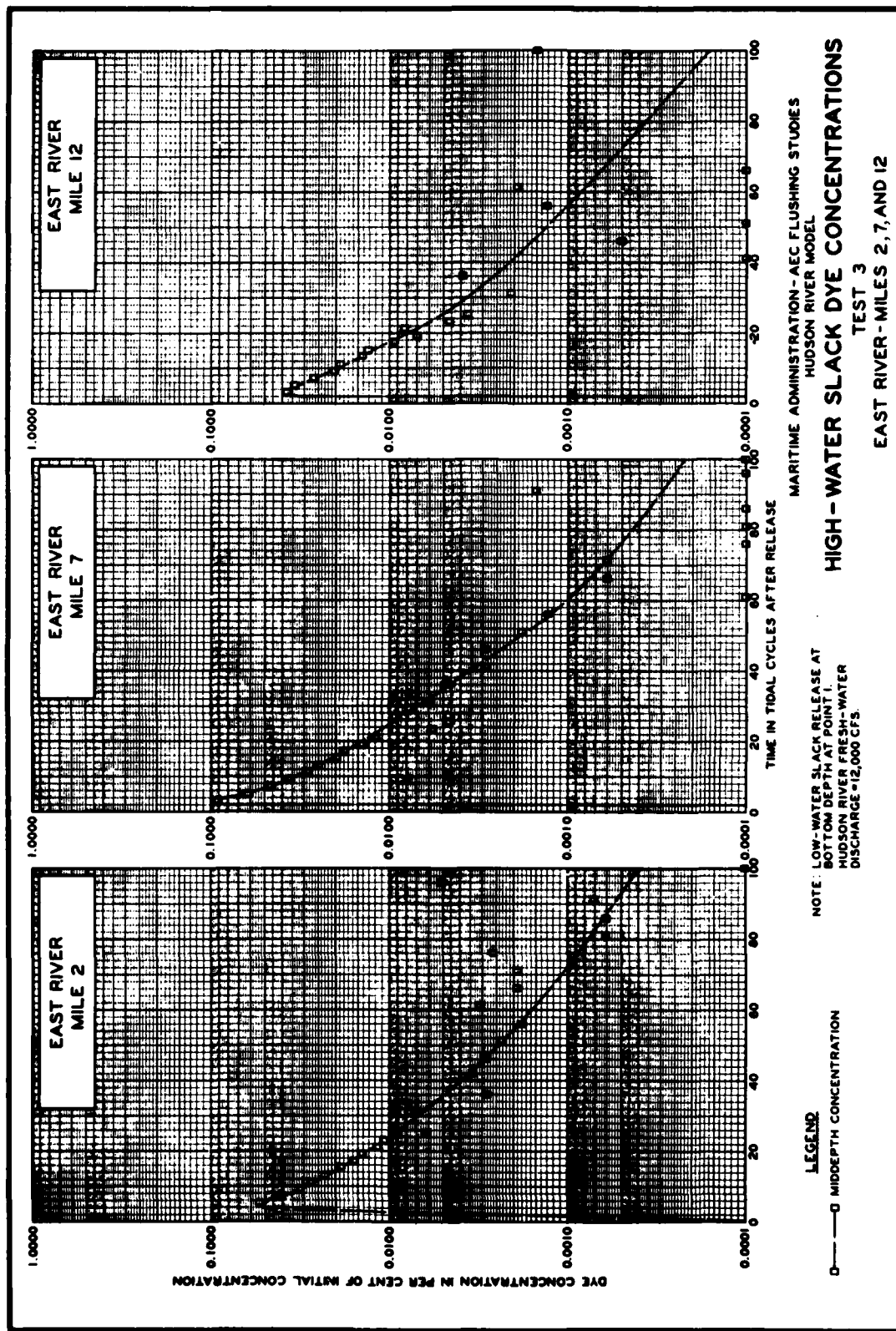
- SURFACE CONCENTRATION
- BOTTOM CONCENTRATION

NOTE: LOW-WATER SLACK RELEASE AT  
 BOTTOM DEPTH AT POINT 1.  
 HUDSON RIVER FRESH-WATER  
 DISCHARGE = 12,000 CFS

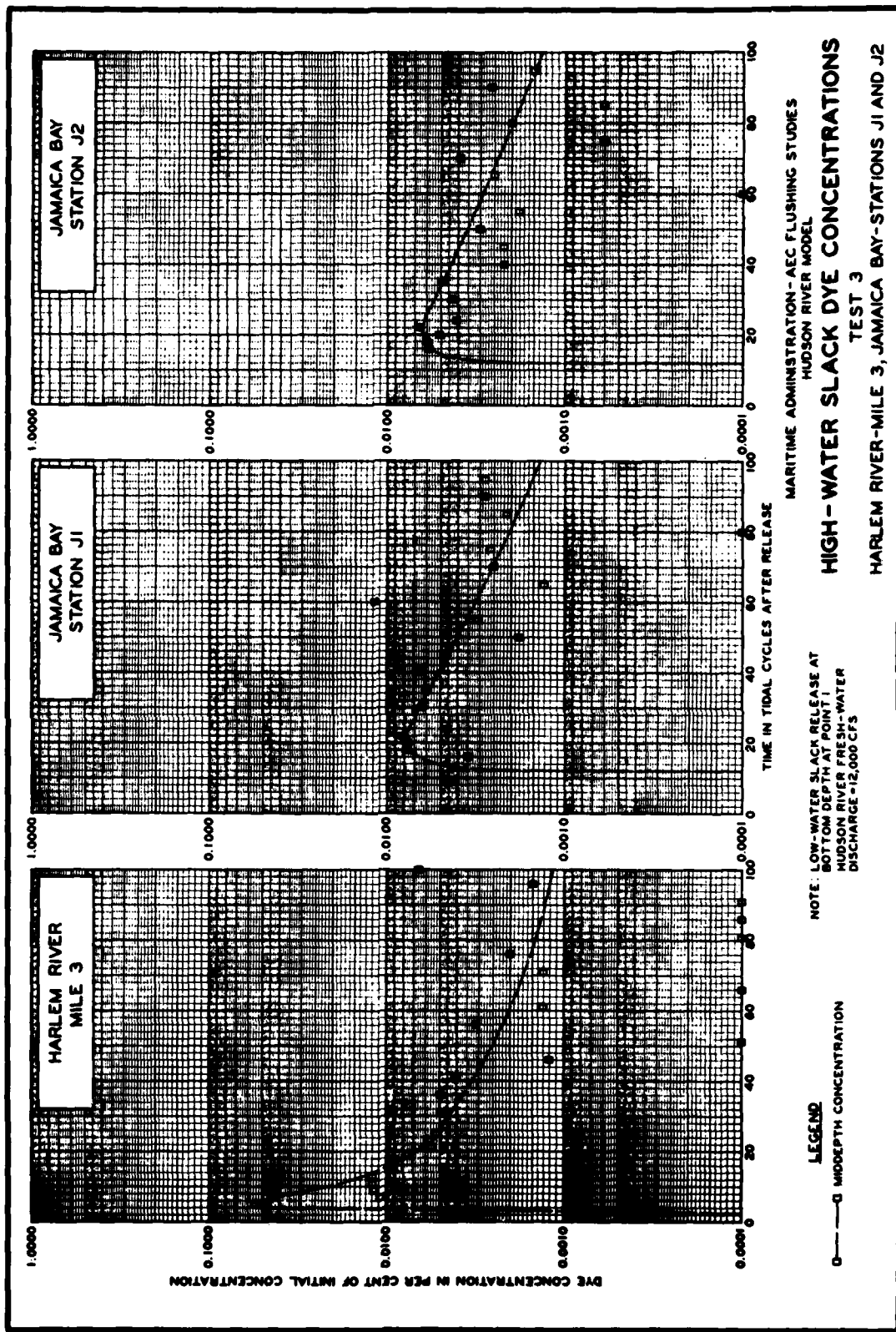
MARITIME ADMINISTRATION - AEC FLUSHING STUDIES  
 HUDSON RIVER MODEL  
**HIGH - WATER SLACK DYE CONCENTRATIONS**  
 TEST 3  
 HUDSON RIVER - MILES -4, 0, AND 4

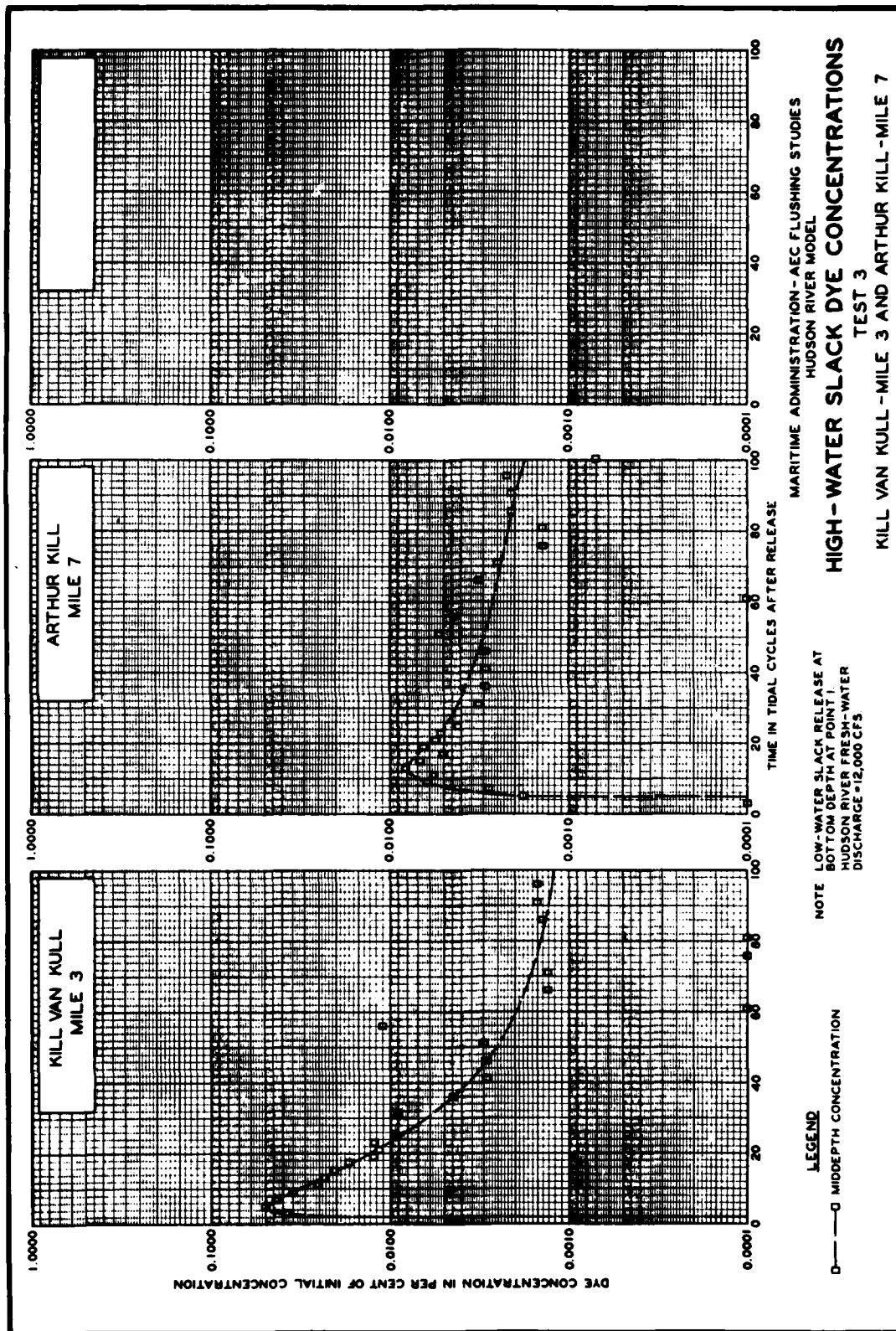




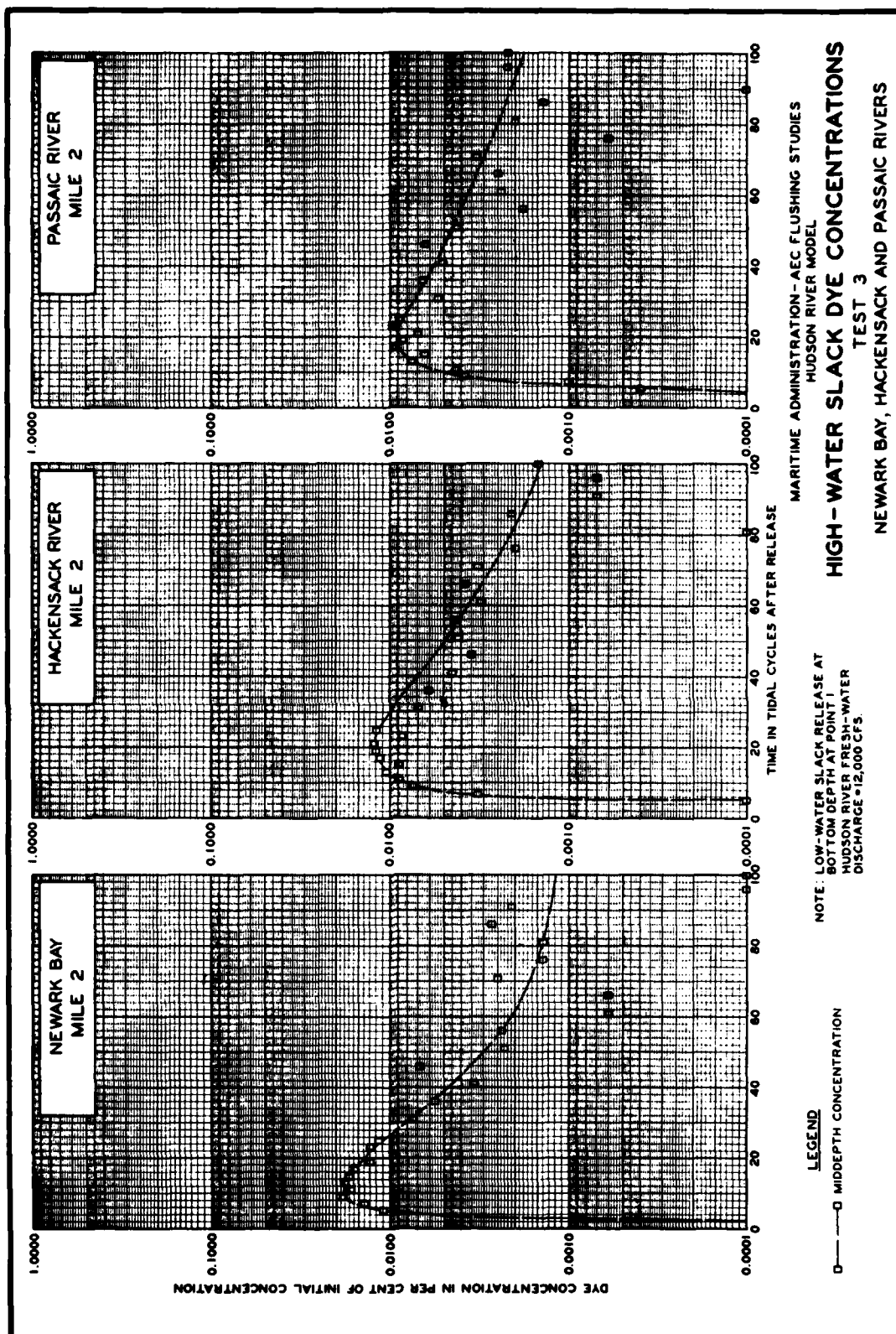












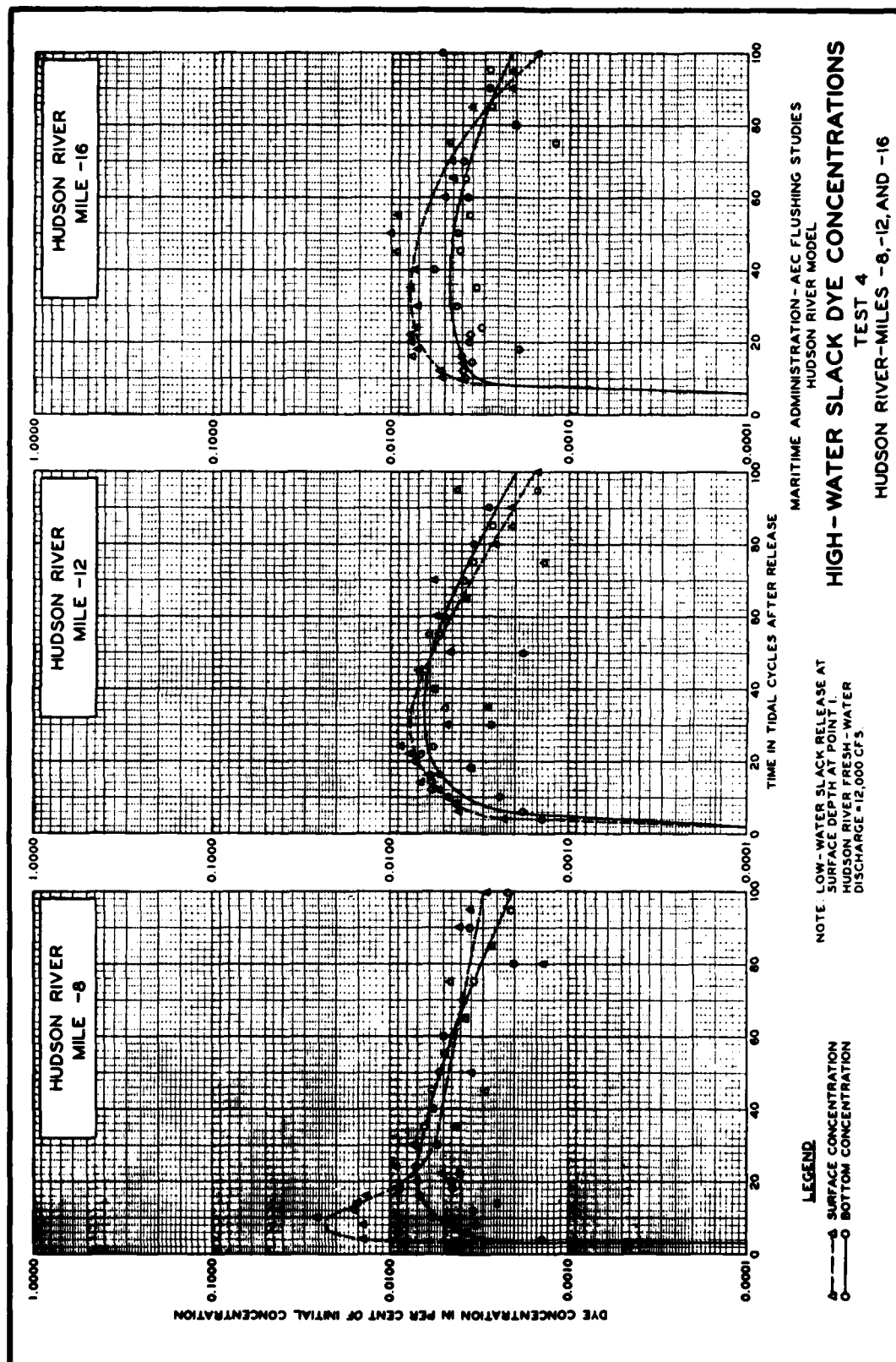
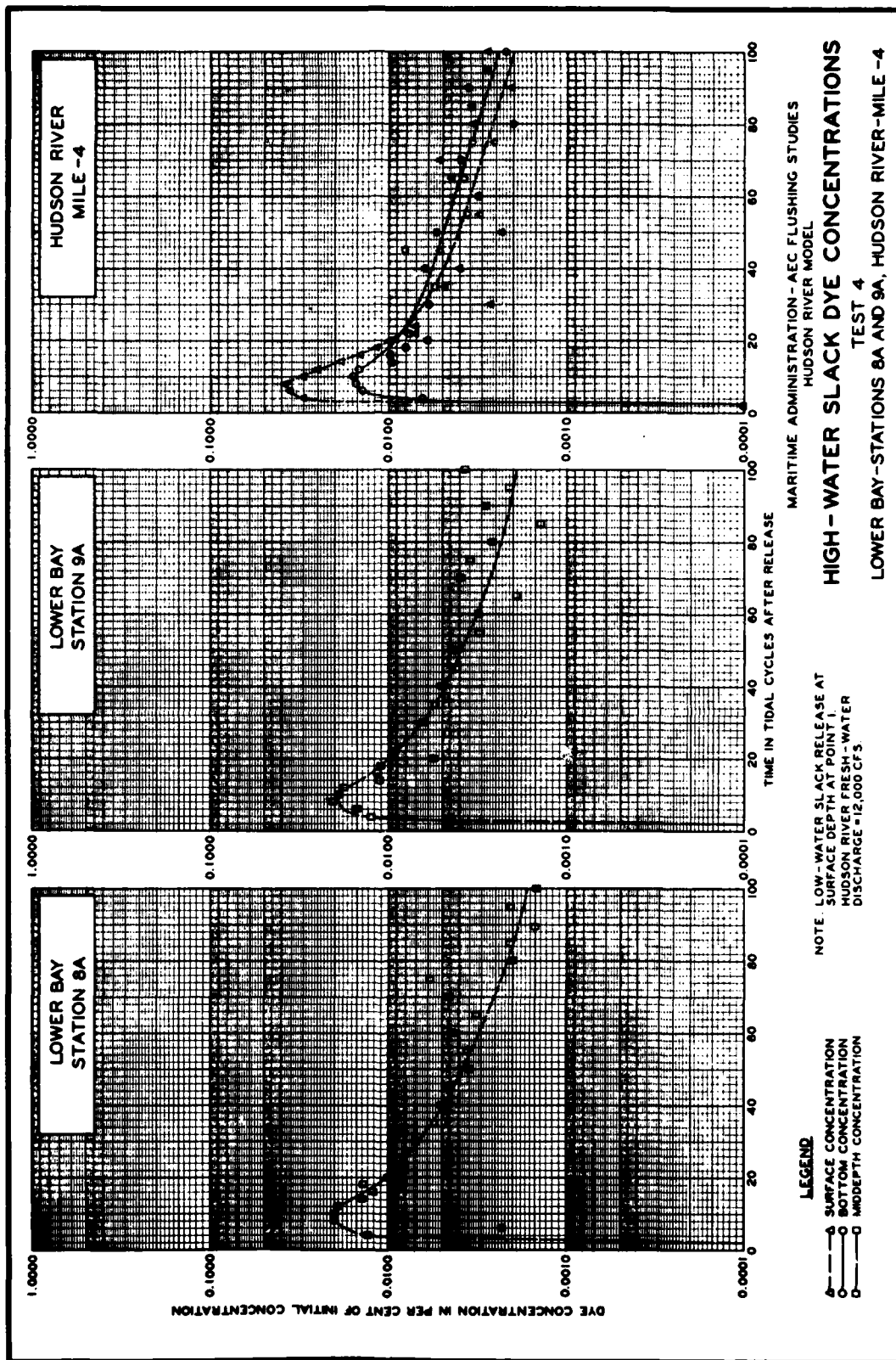
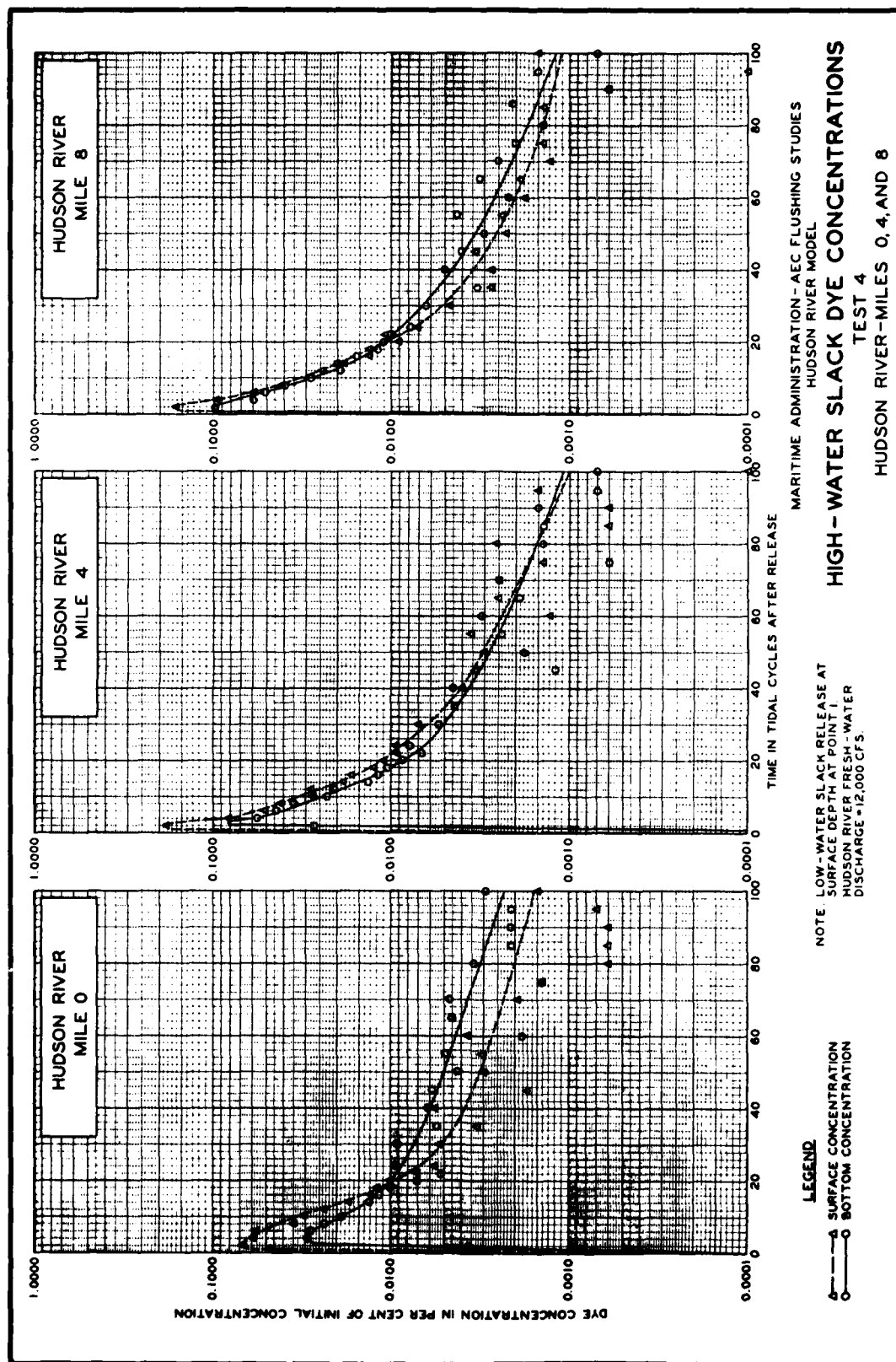
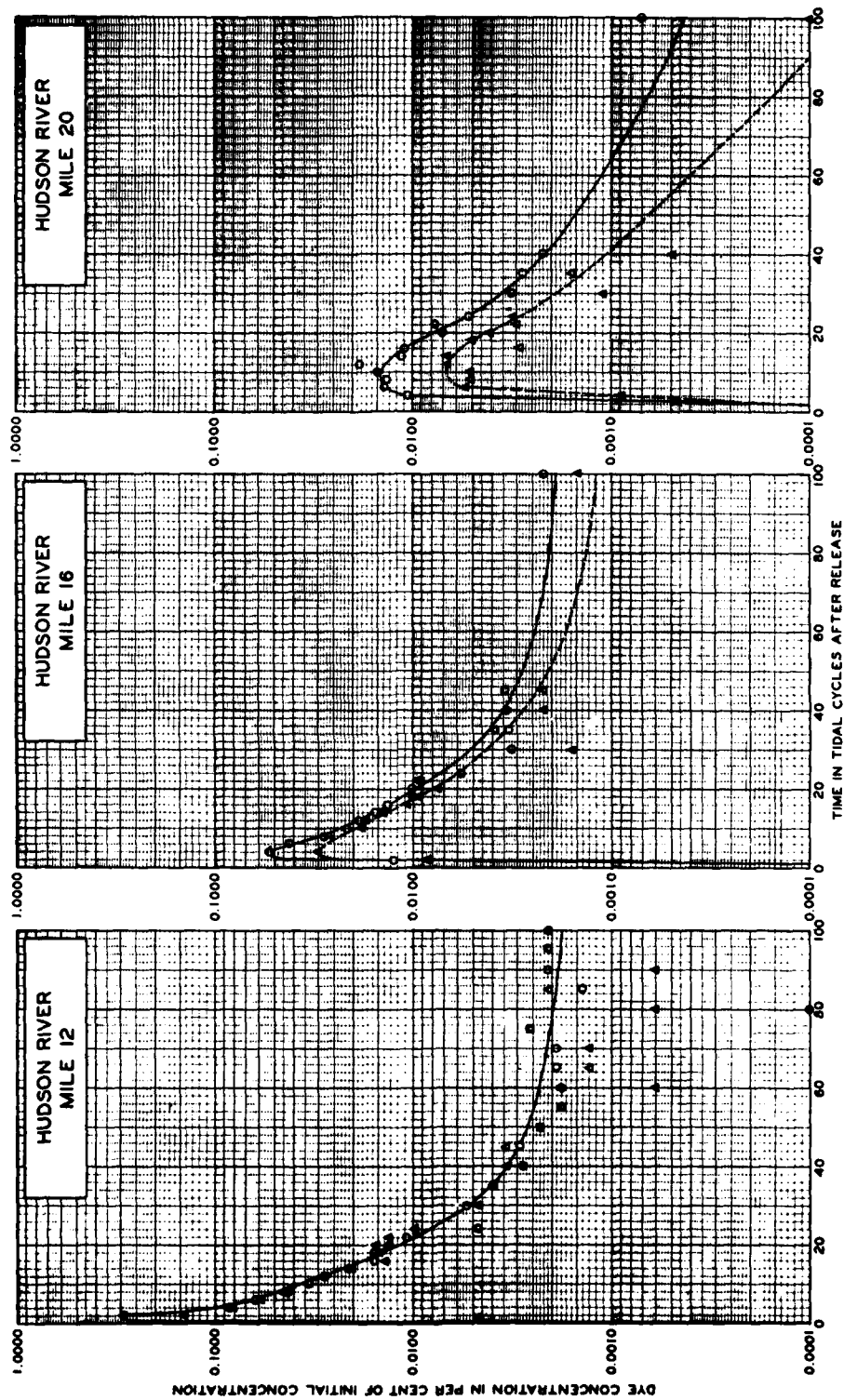


PLATE 48



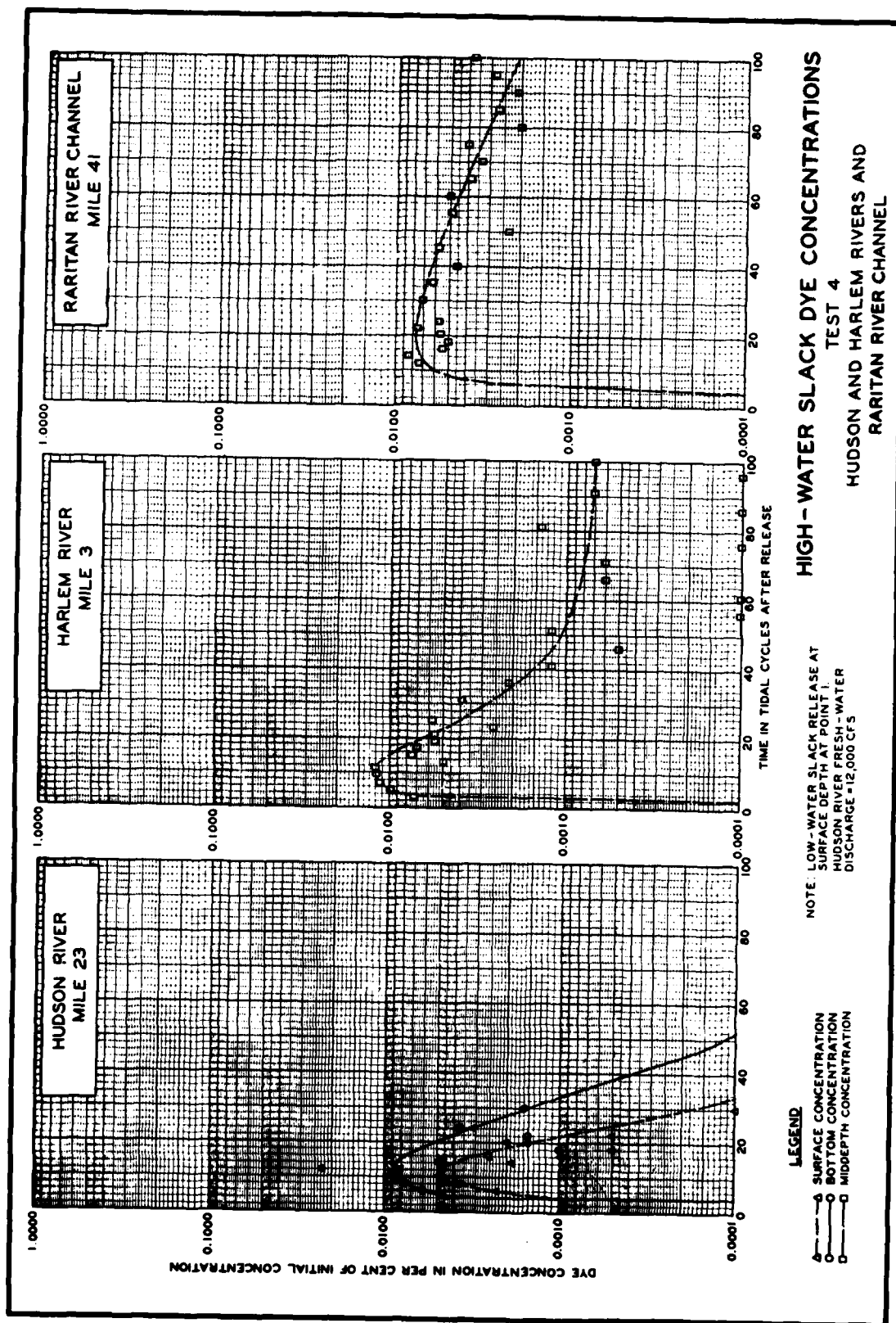




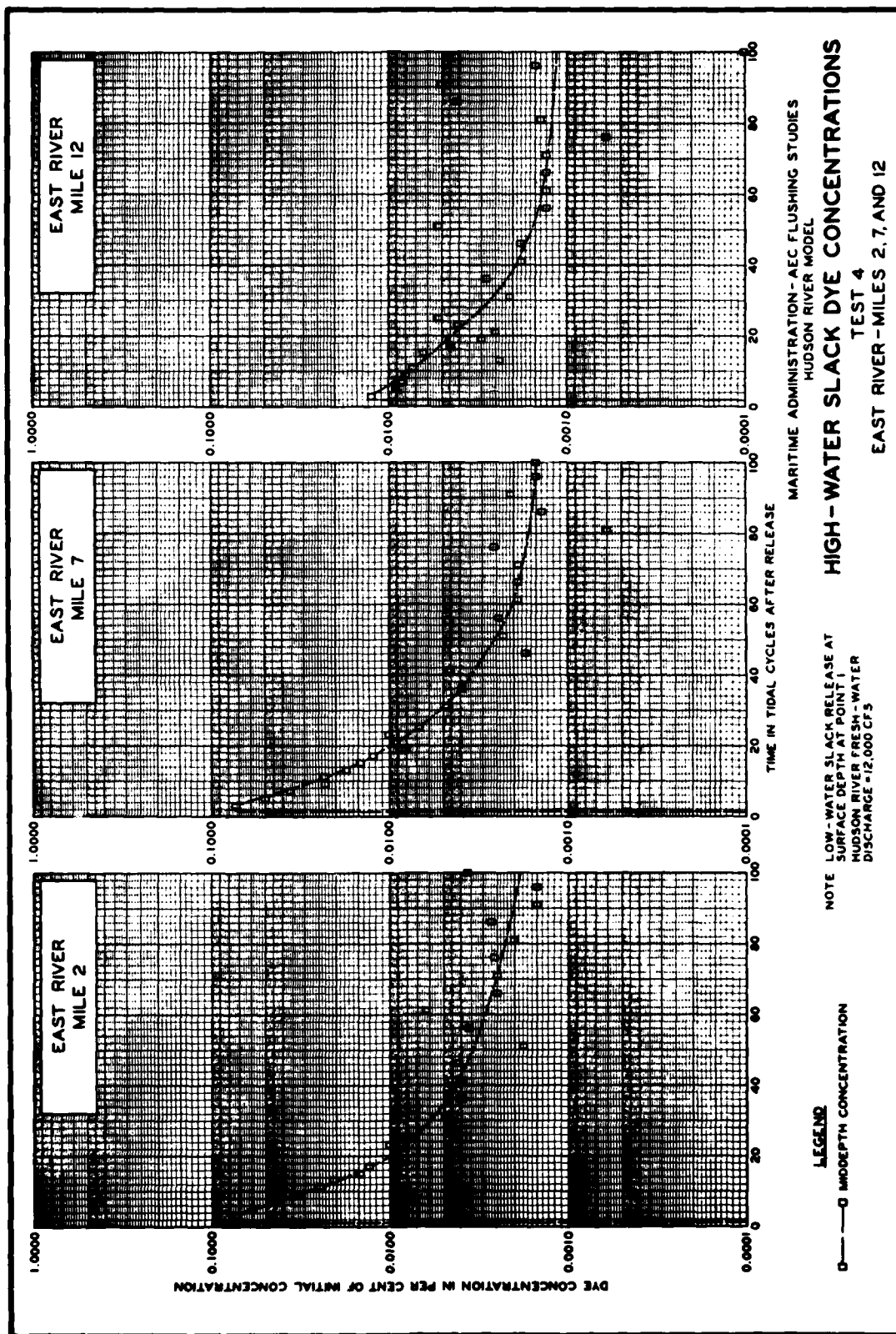
**LEGEND**  
 ● SURFACE CONCENTRATION  
 ○ BOTTOM CONCENTRATION

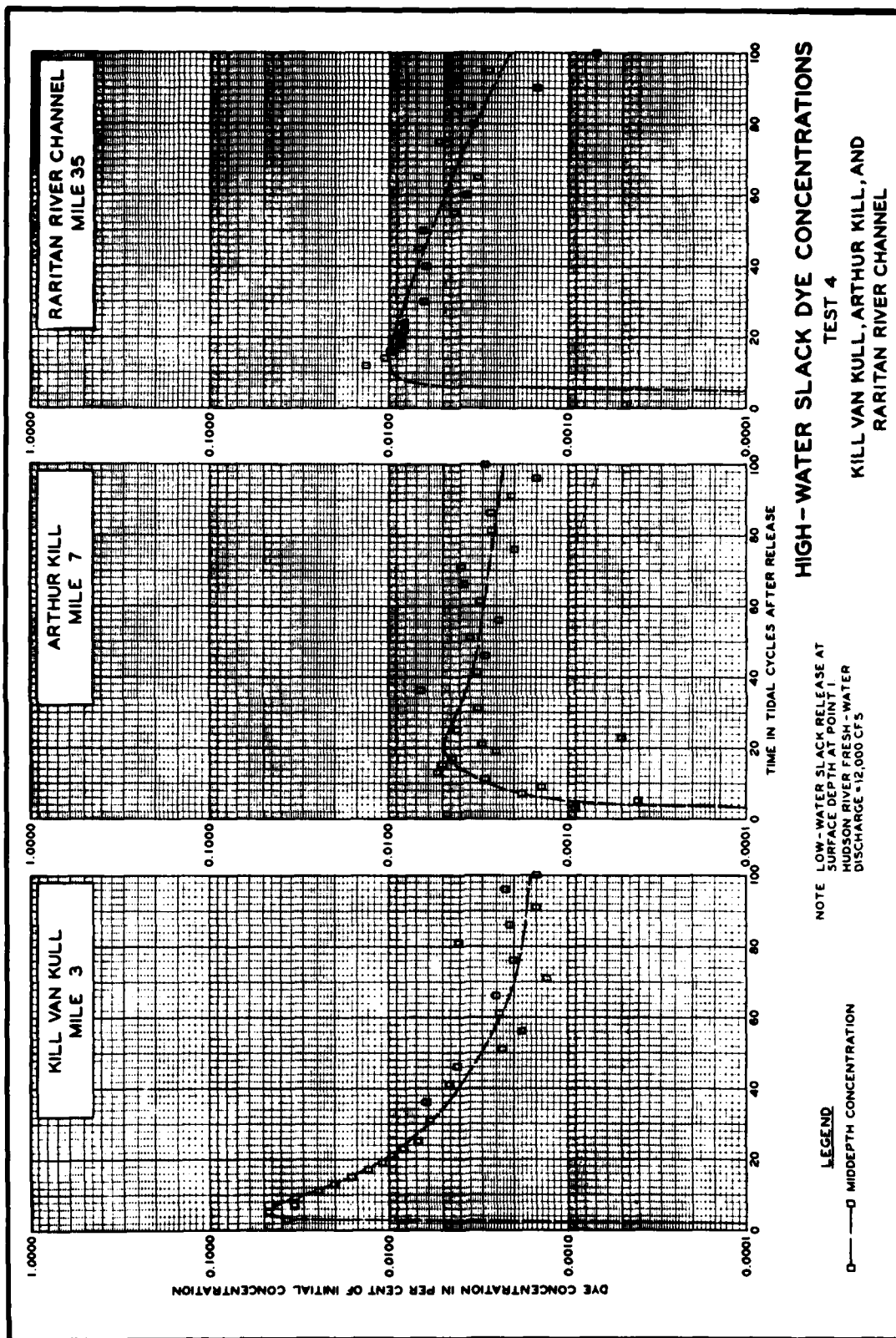
**NOTE** LOW-WATER SLACK RELEASE AT  
 SURFACE DEPTH AT POINT 1  
 HUDSON RIVER FRESH-WATER  
 DISCHARGE = 12,000 CFS

MARITIME ADMINISTRATION - AEC FLUSHING STUDIES  
 HUDSON RIVER MODEL  
**HIGH - WATER SLACK DYE CONCENTRATIONS**  
 TEST 4  
 HUDSON RIVER - MILES 12, 16, AND 20

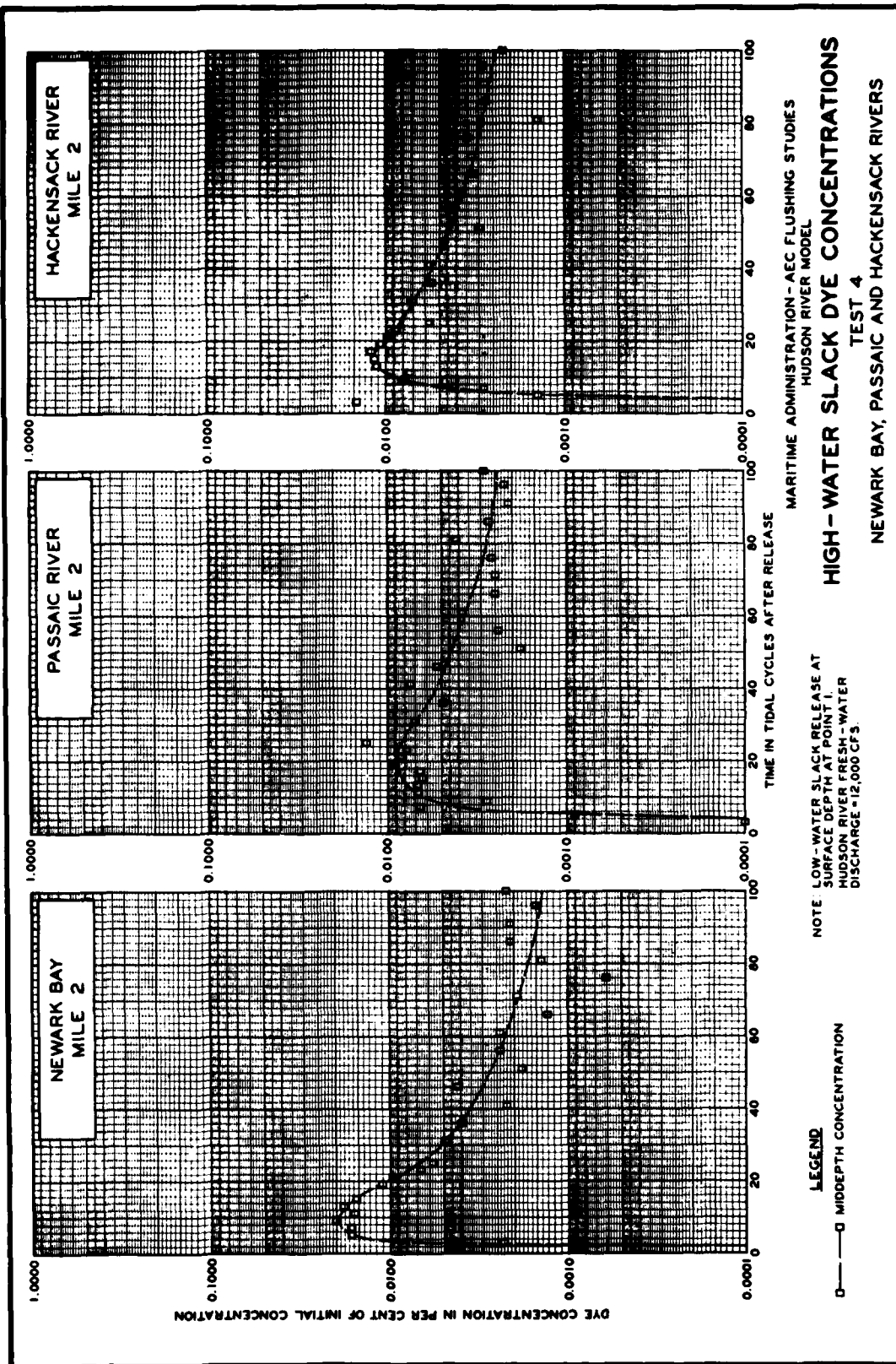


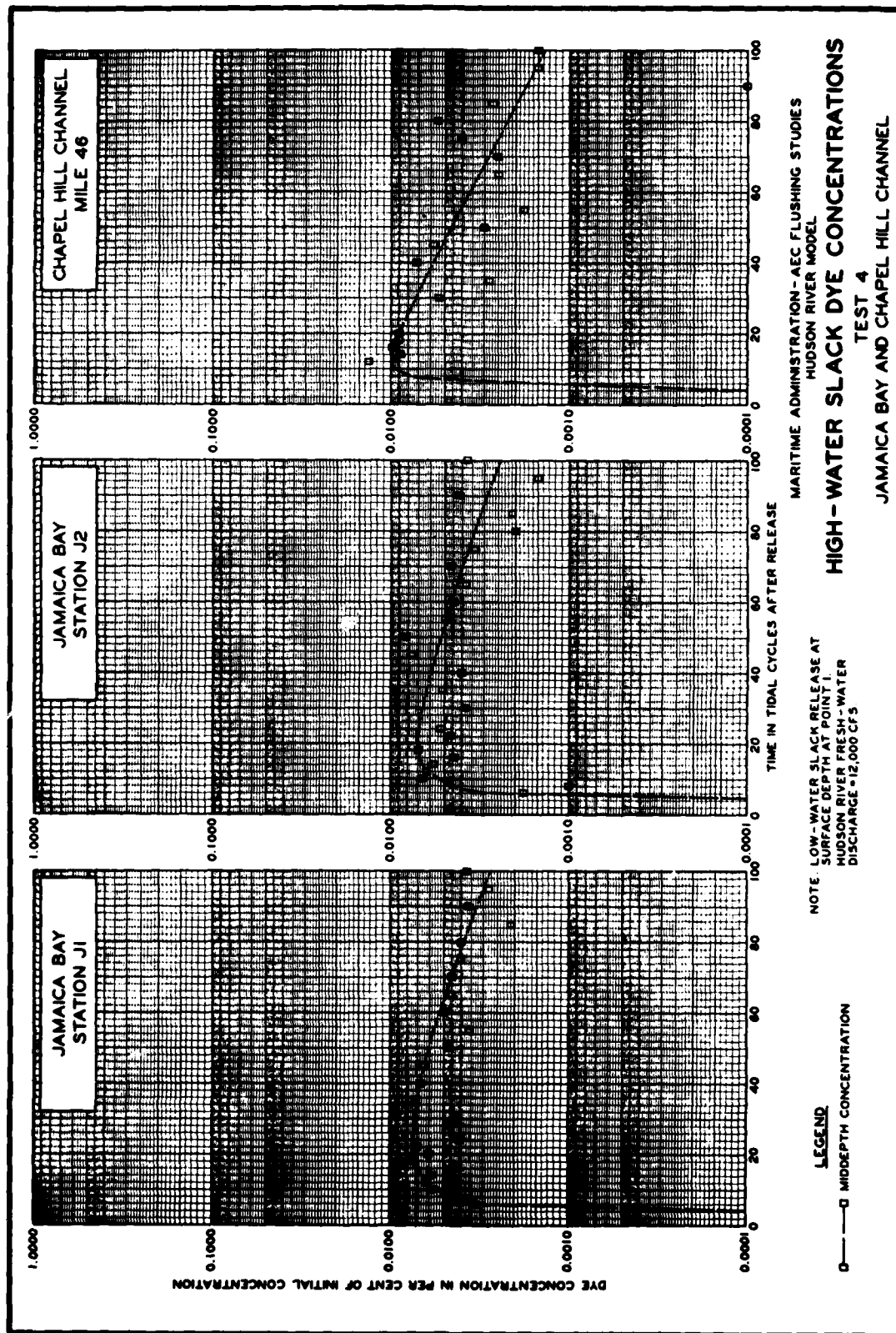


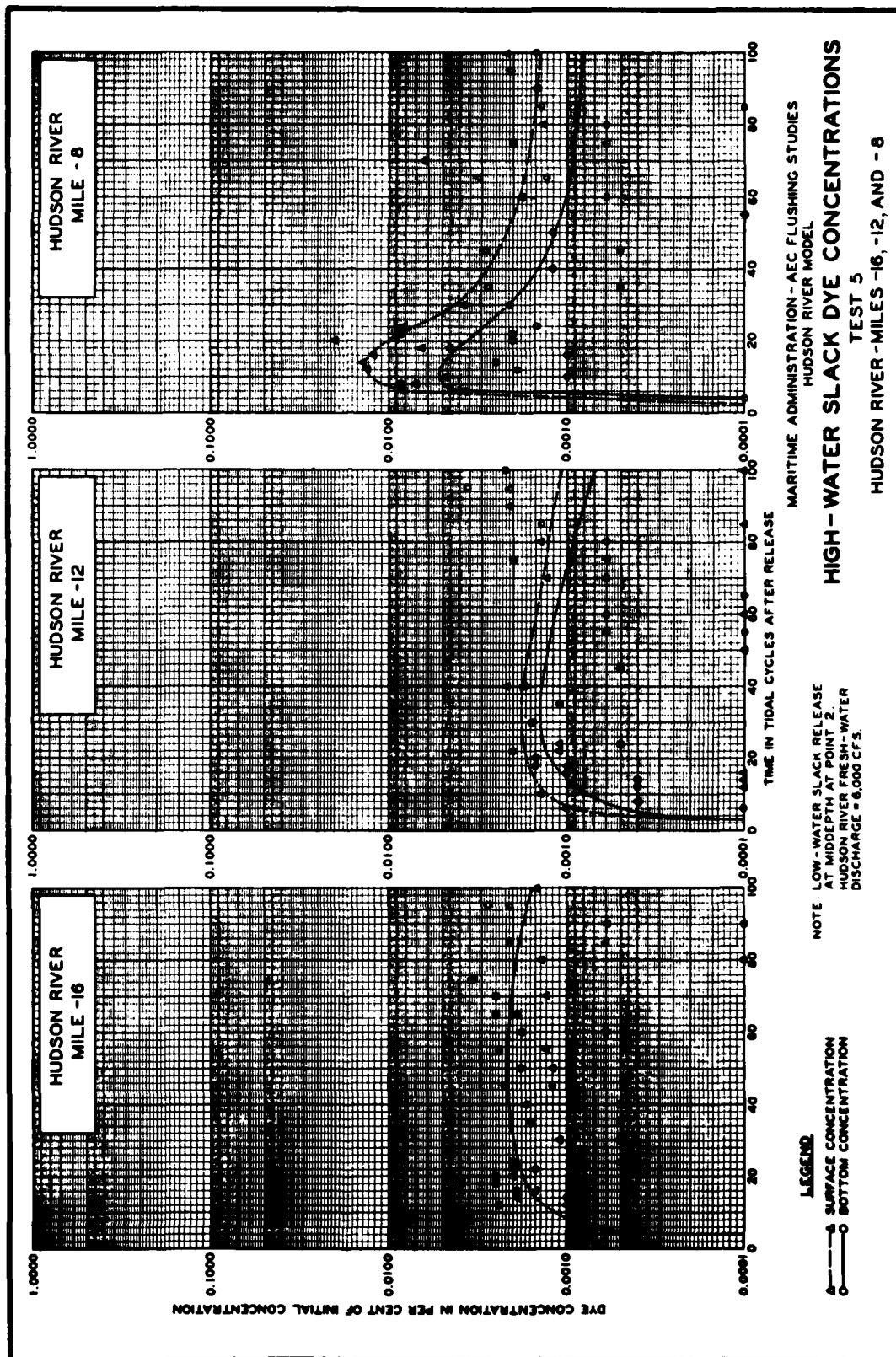


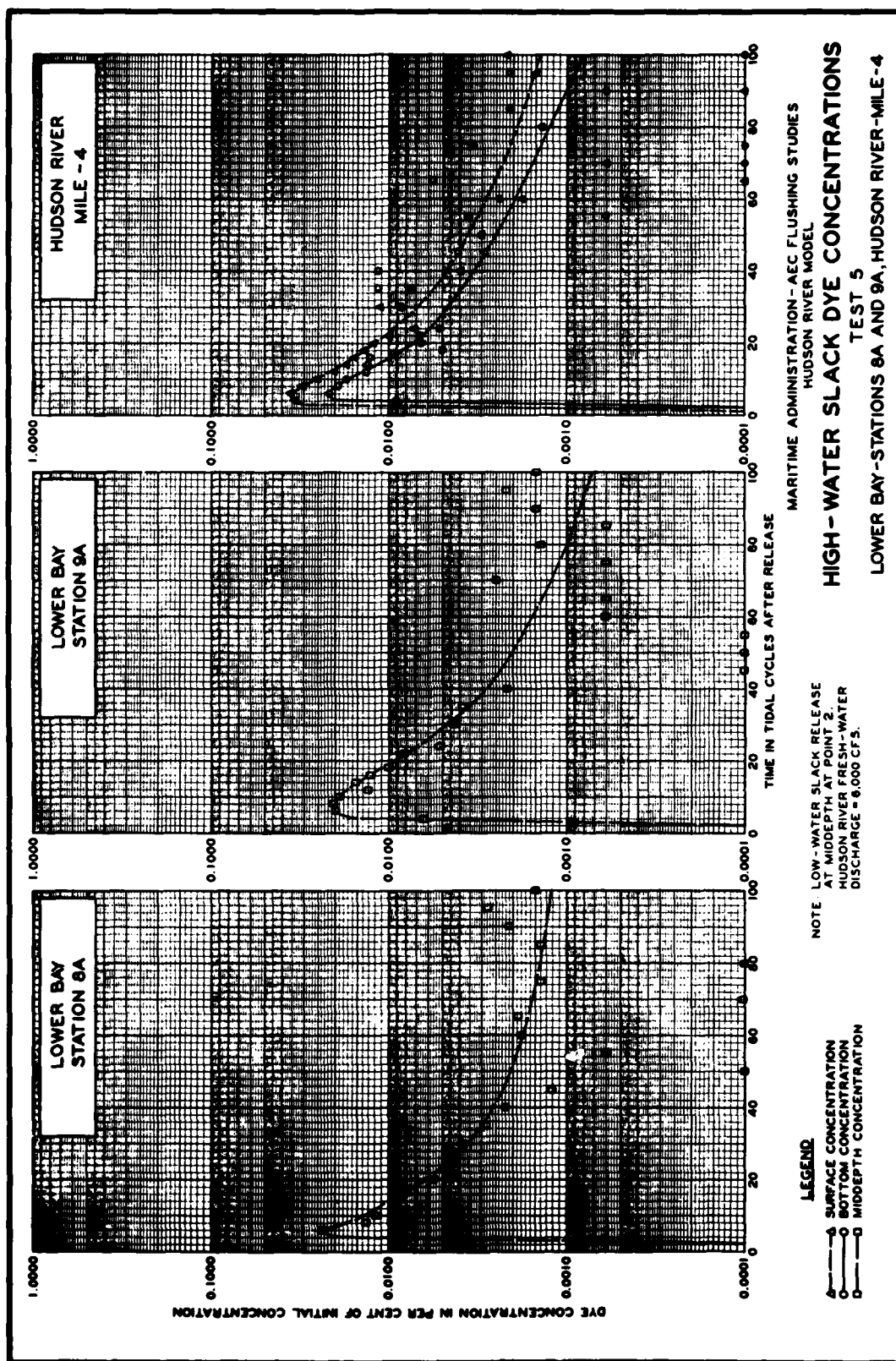


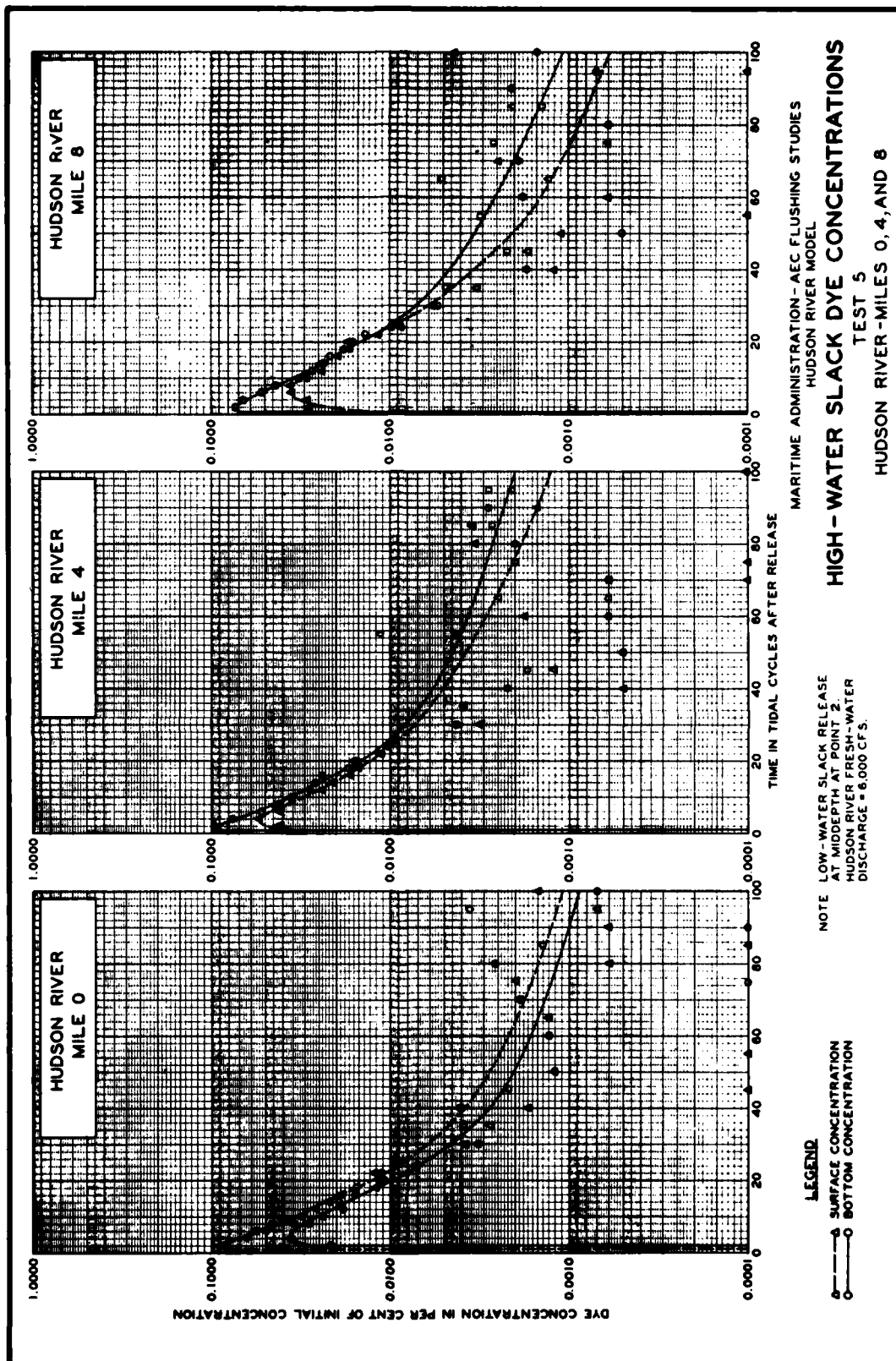


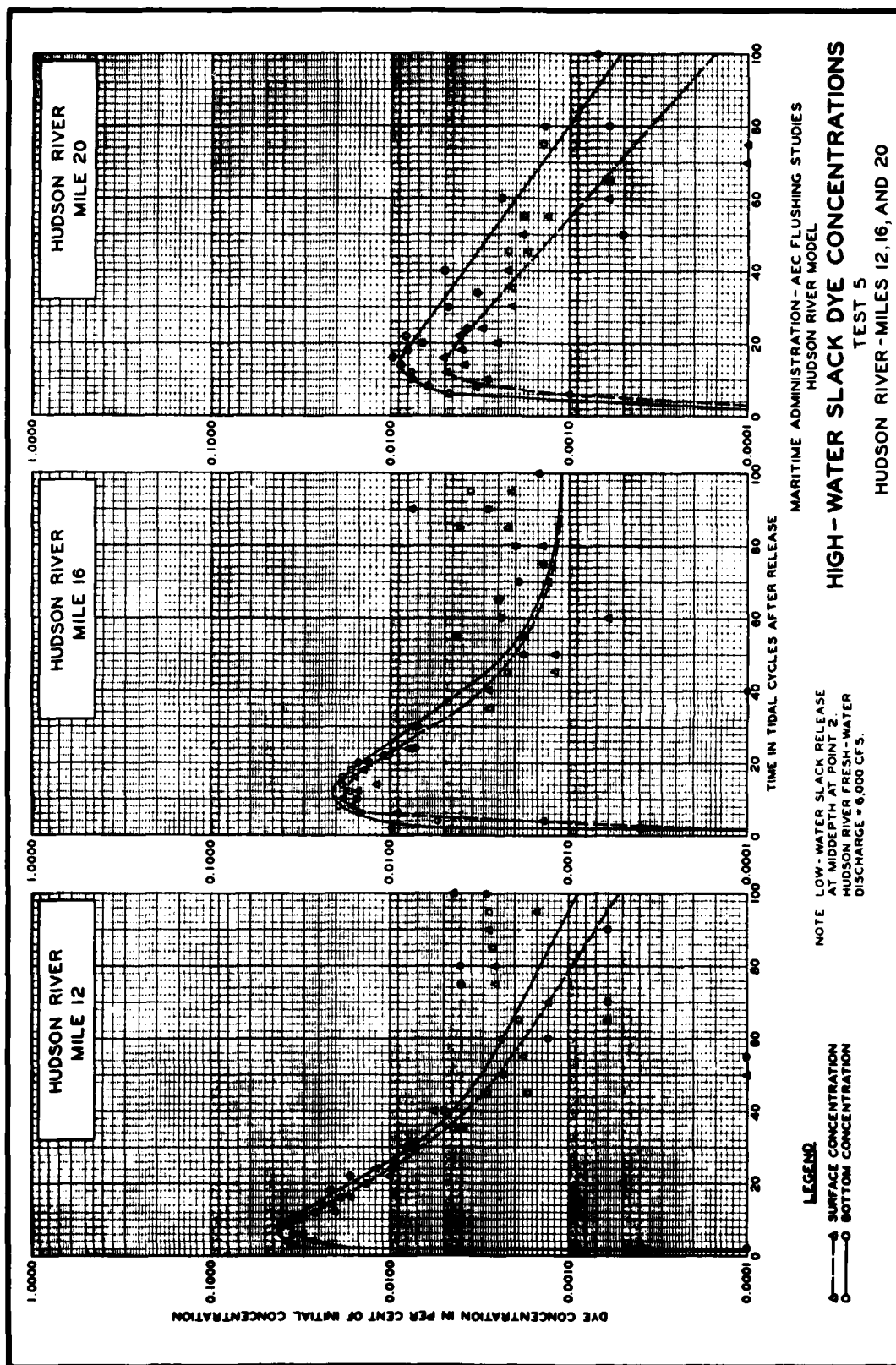




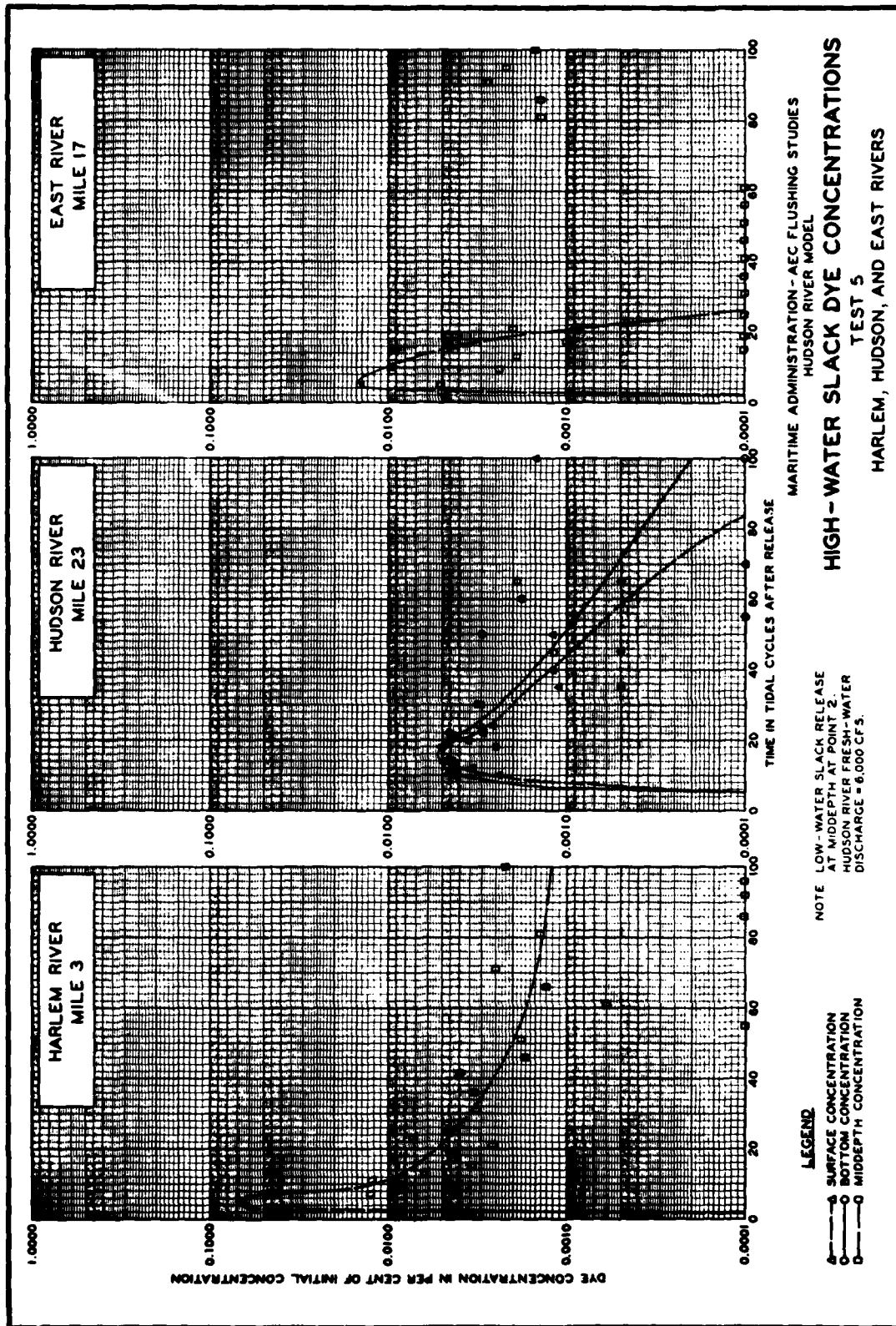


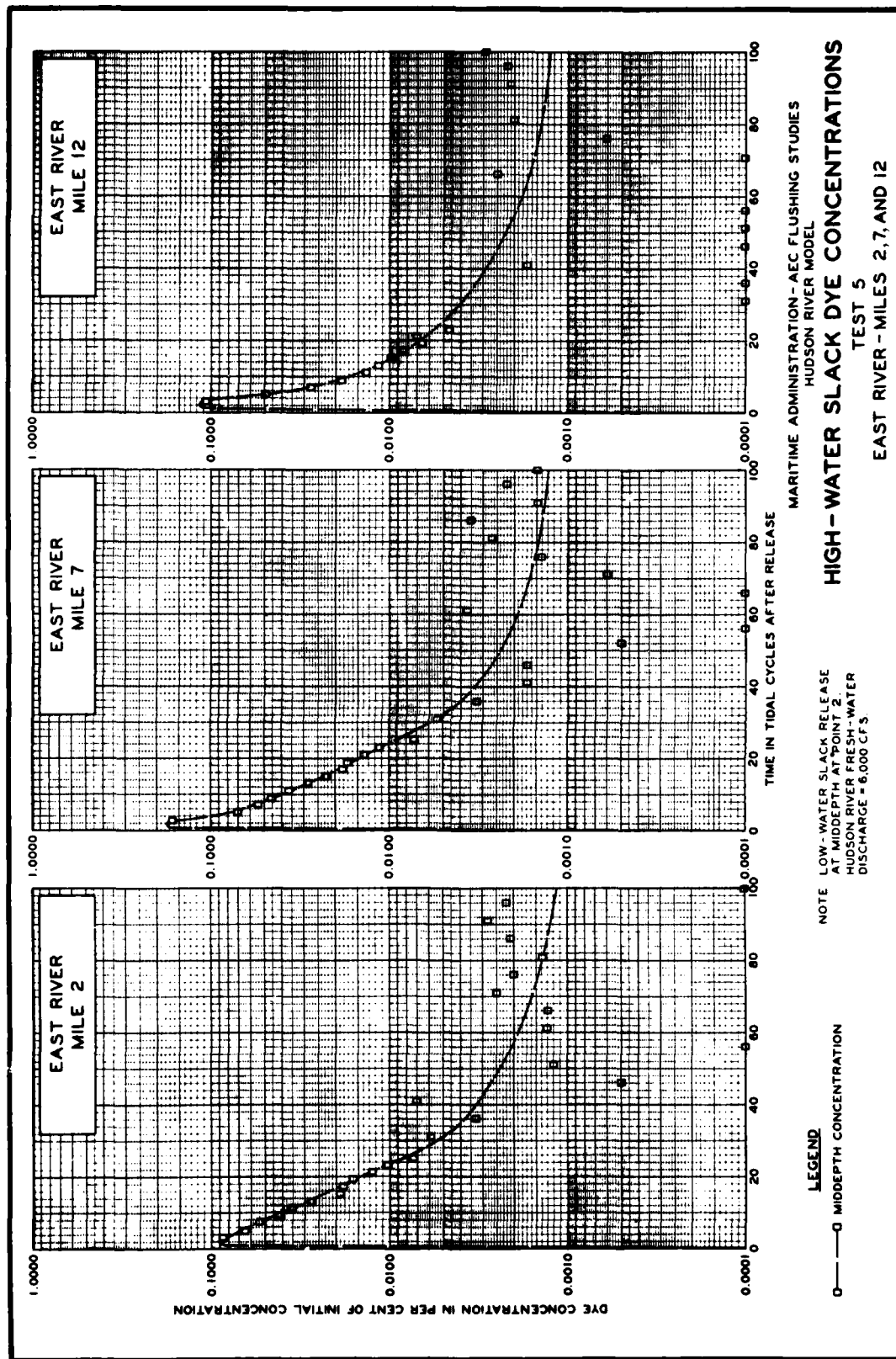




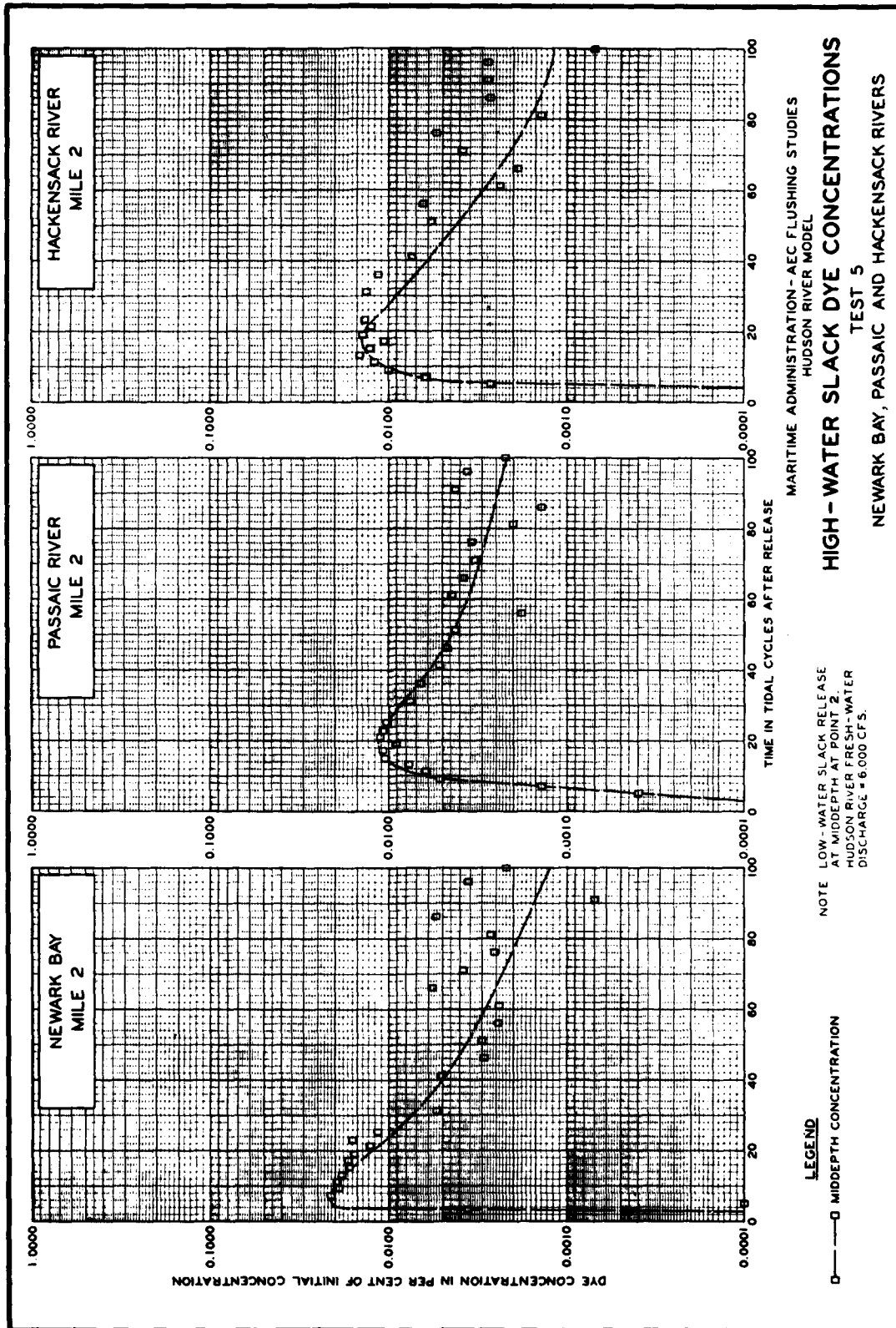


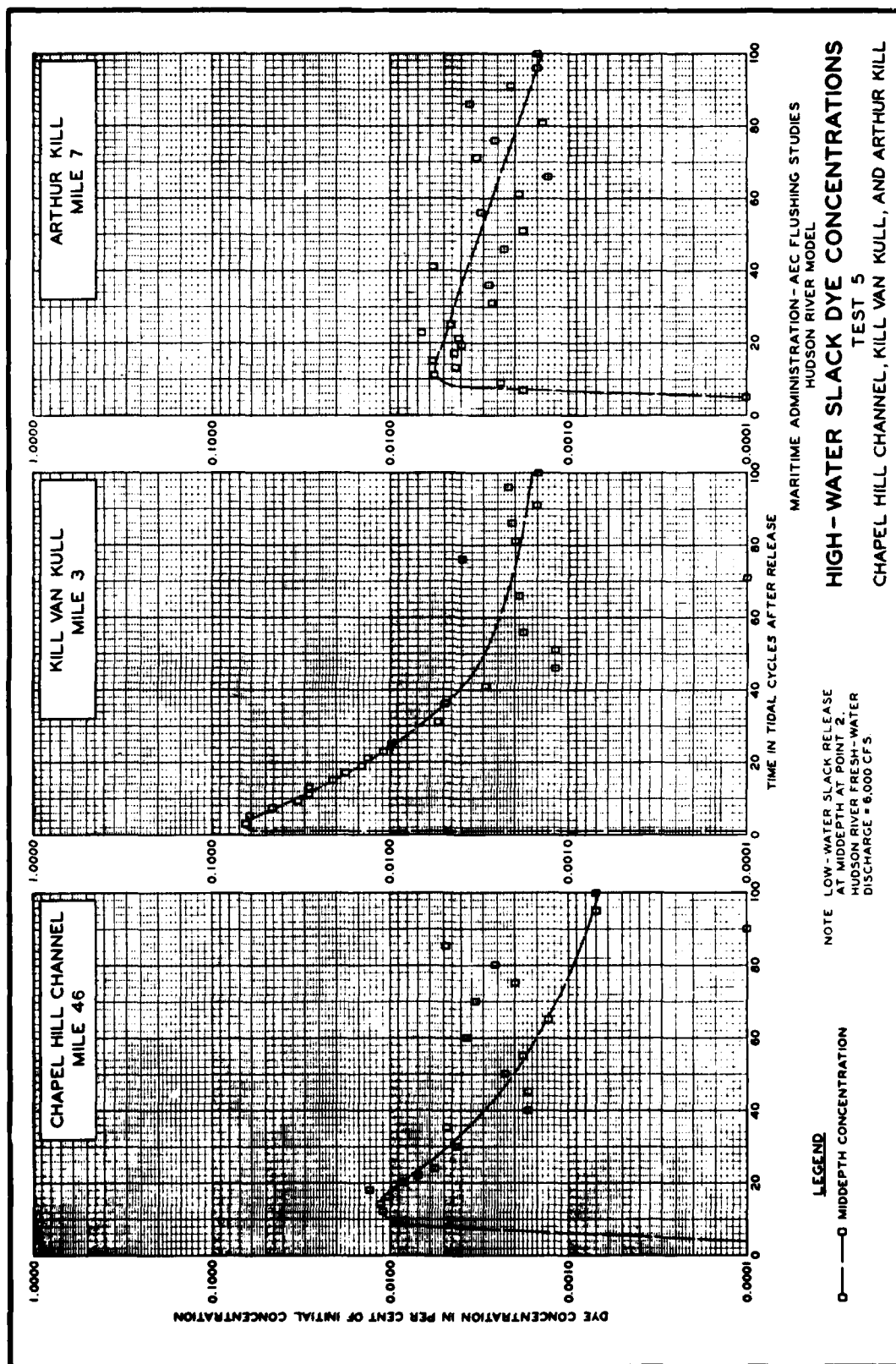


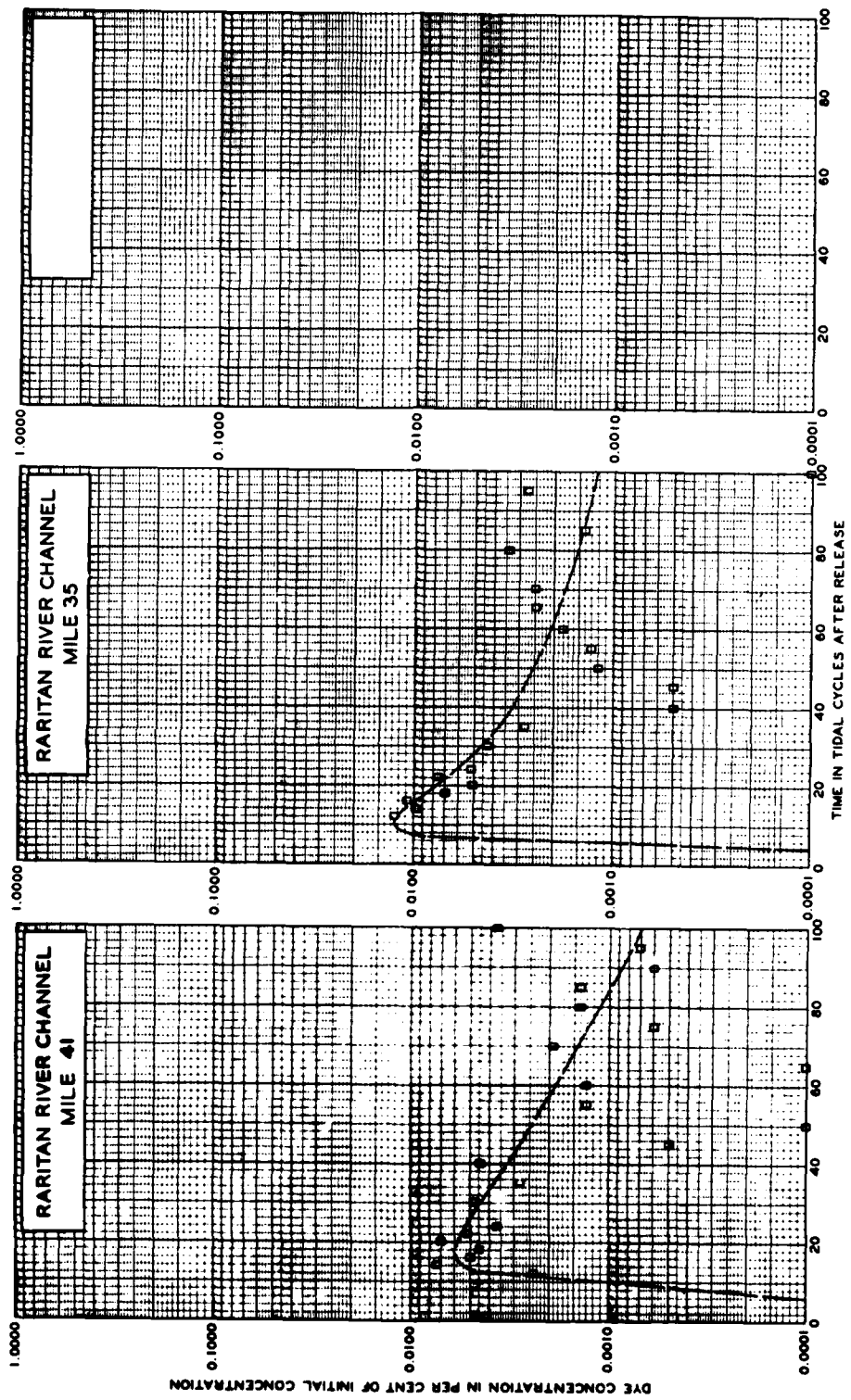












**LEGEND**

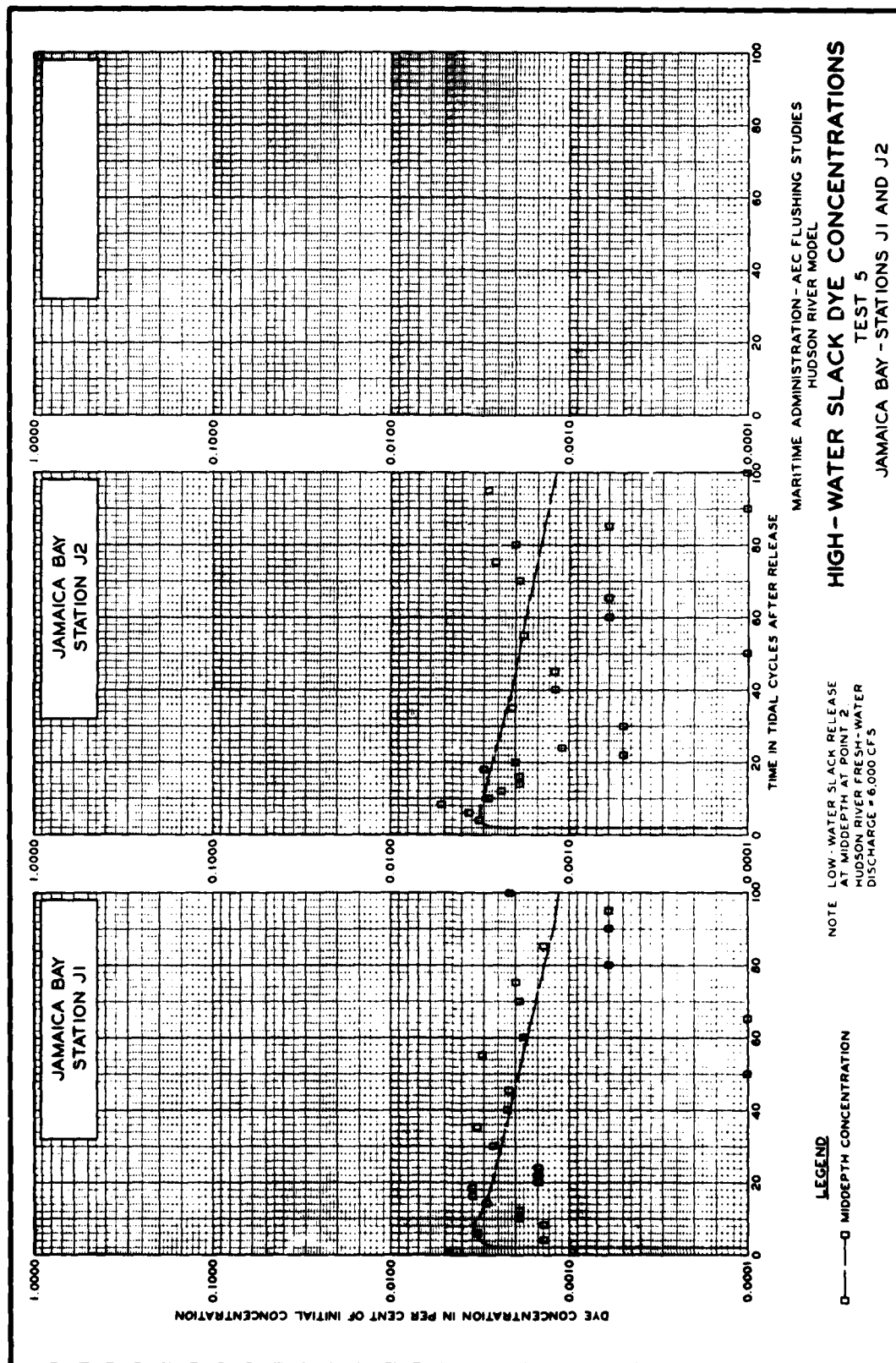
—○— MIDDEPTH CONCENTRATION

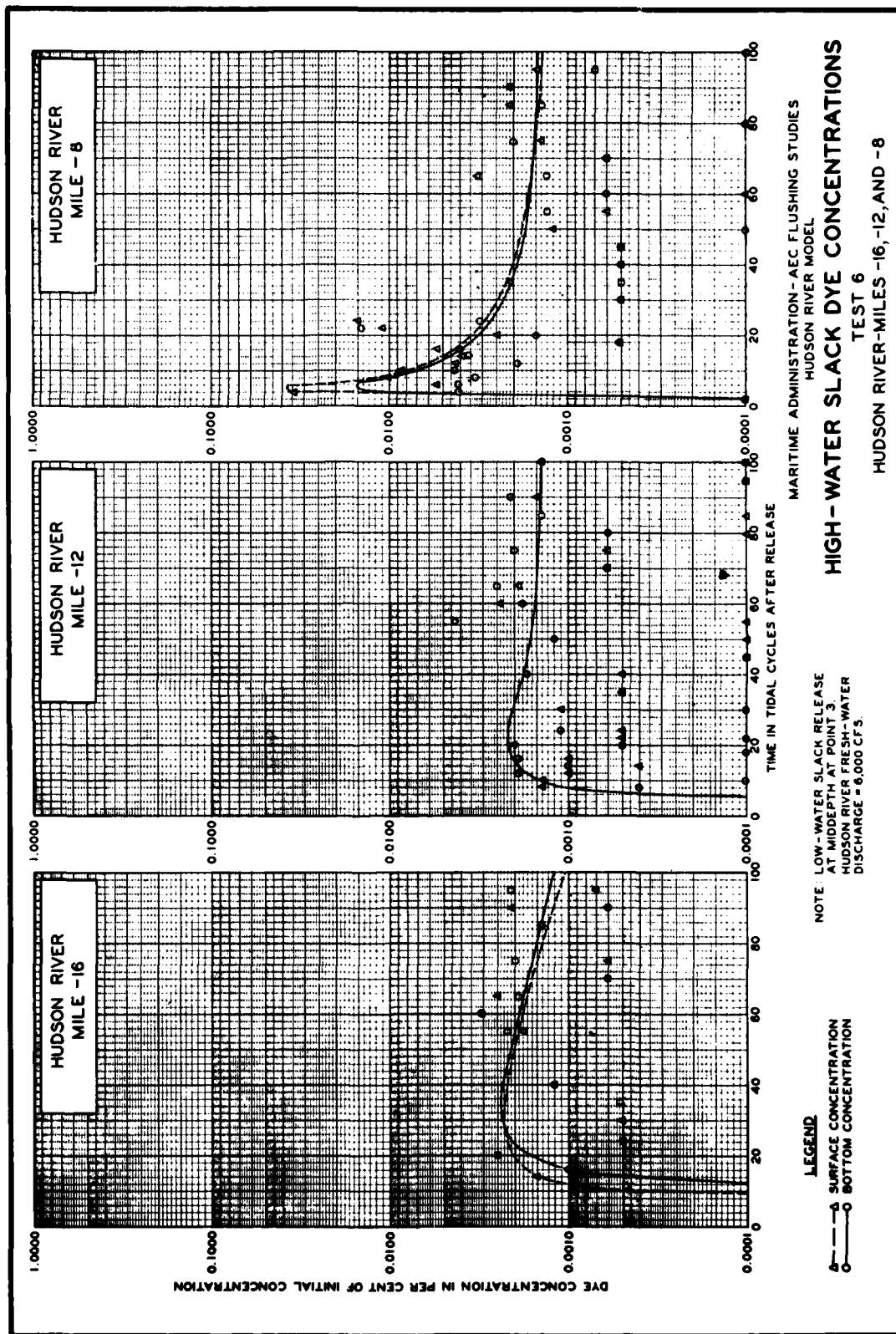
NOTE LOW-WATER SLACK RELEASE  
AT MIDDDEPTH AT POINT 2.  
HUDSON RIVER FRESH-WATER  
DISCHARGE = 6,000 CFS

MARITIME ADMINISTRATION - AEC FLUSHING STUDIES  
HUDSON RIVER MODEL

**HIGH-WATER SLACK DYE CONCENTRATIONS**  
**TEST 5**

RARITAN RIVER CHANNEL - MILES 41 AND 35





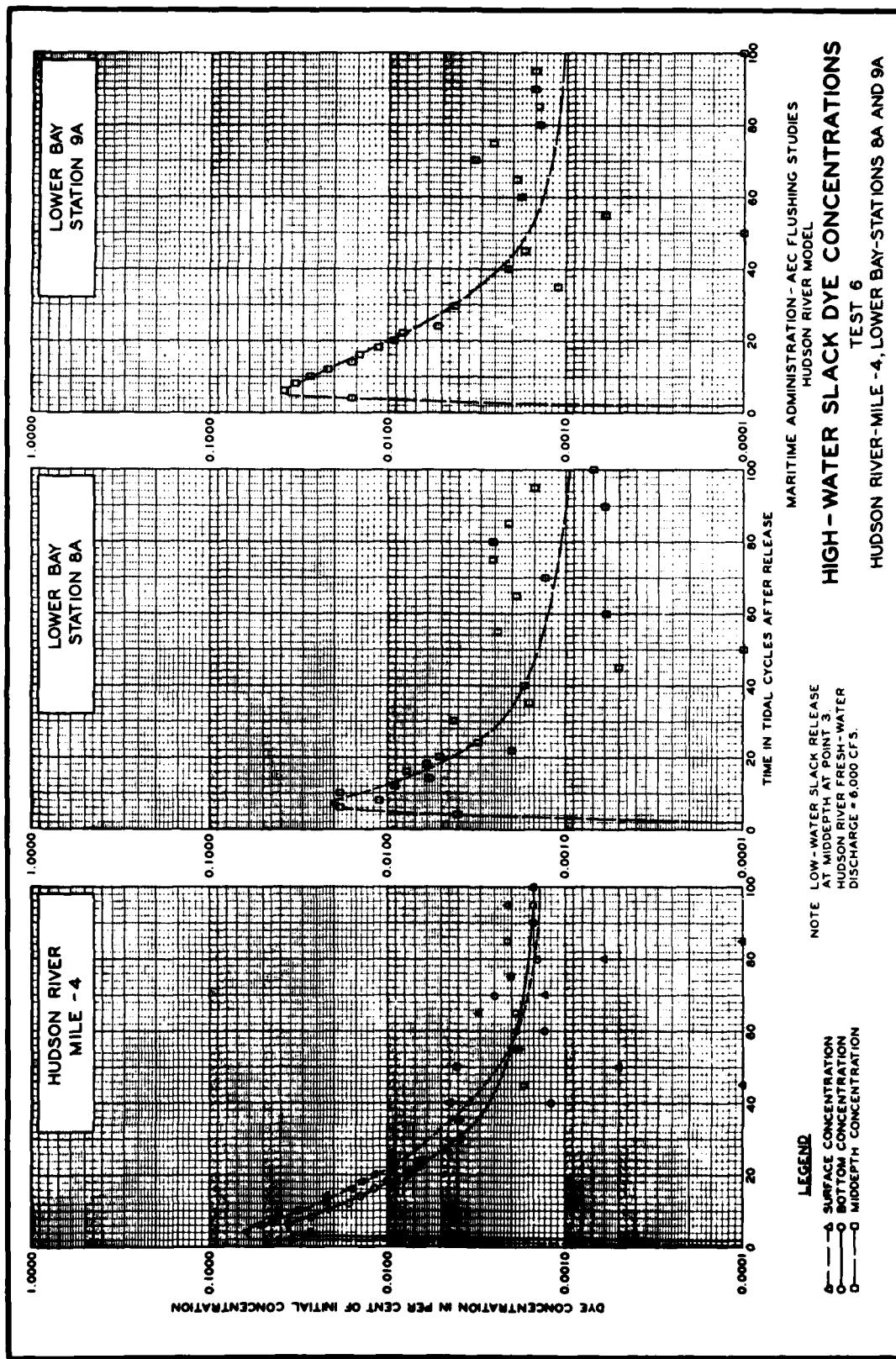
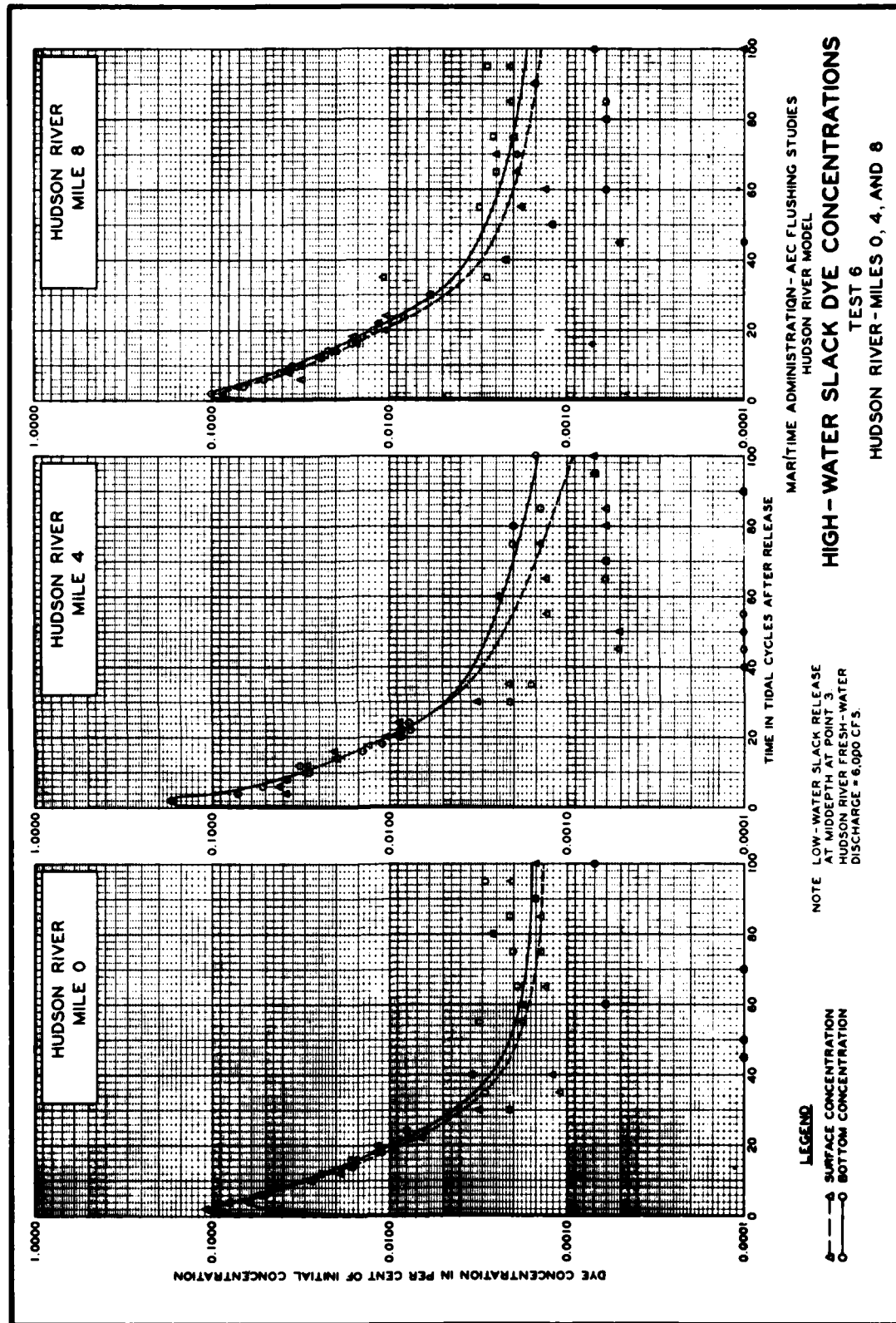
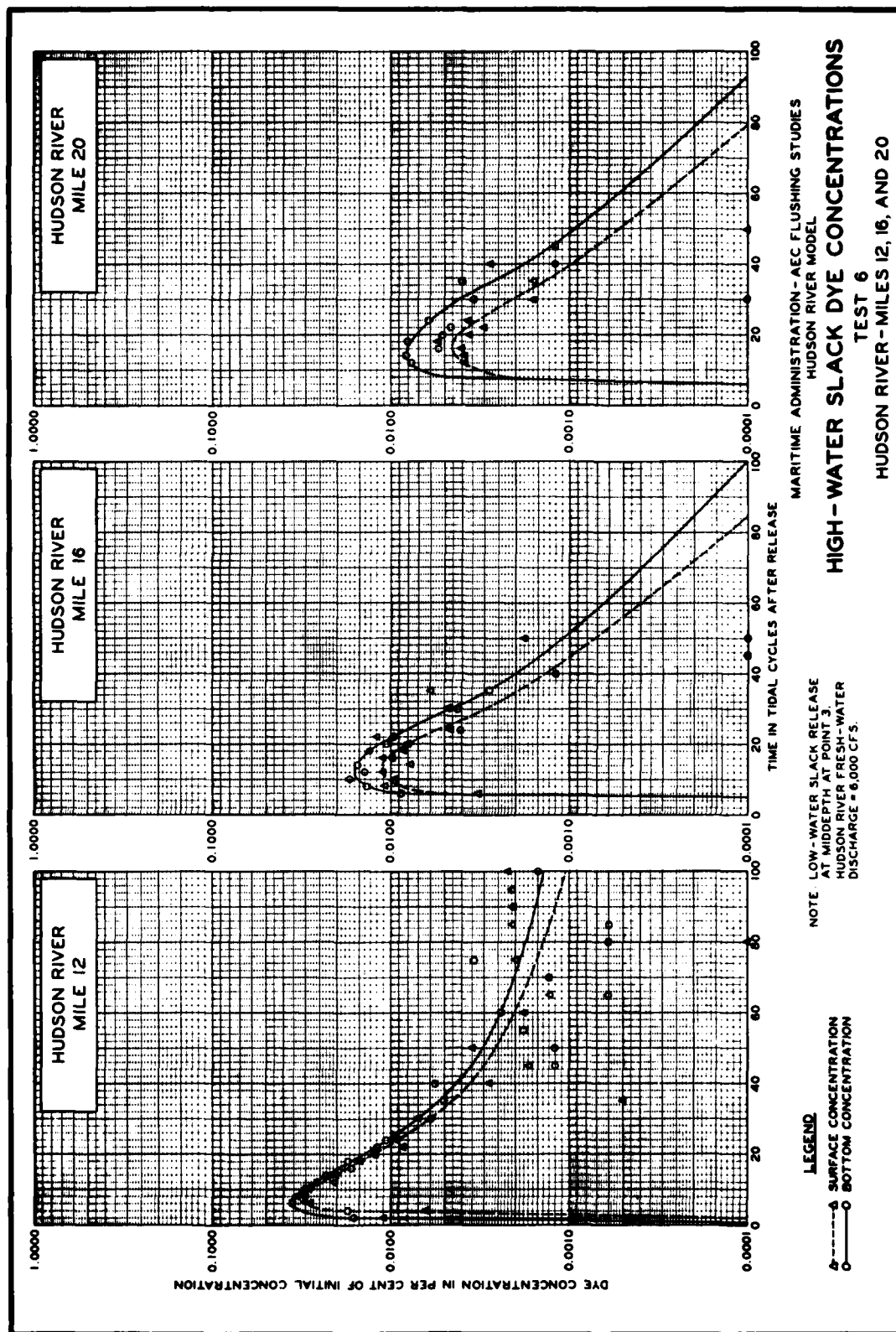


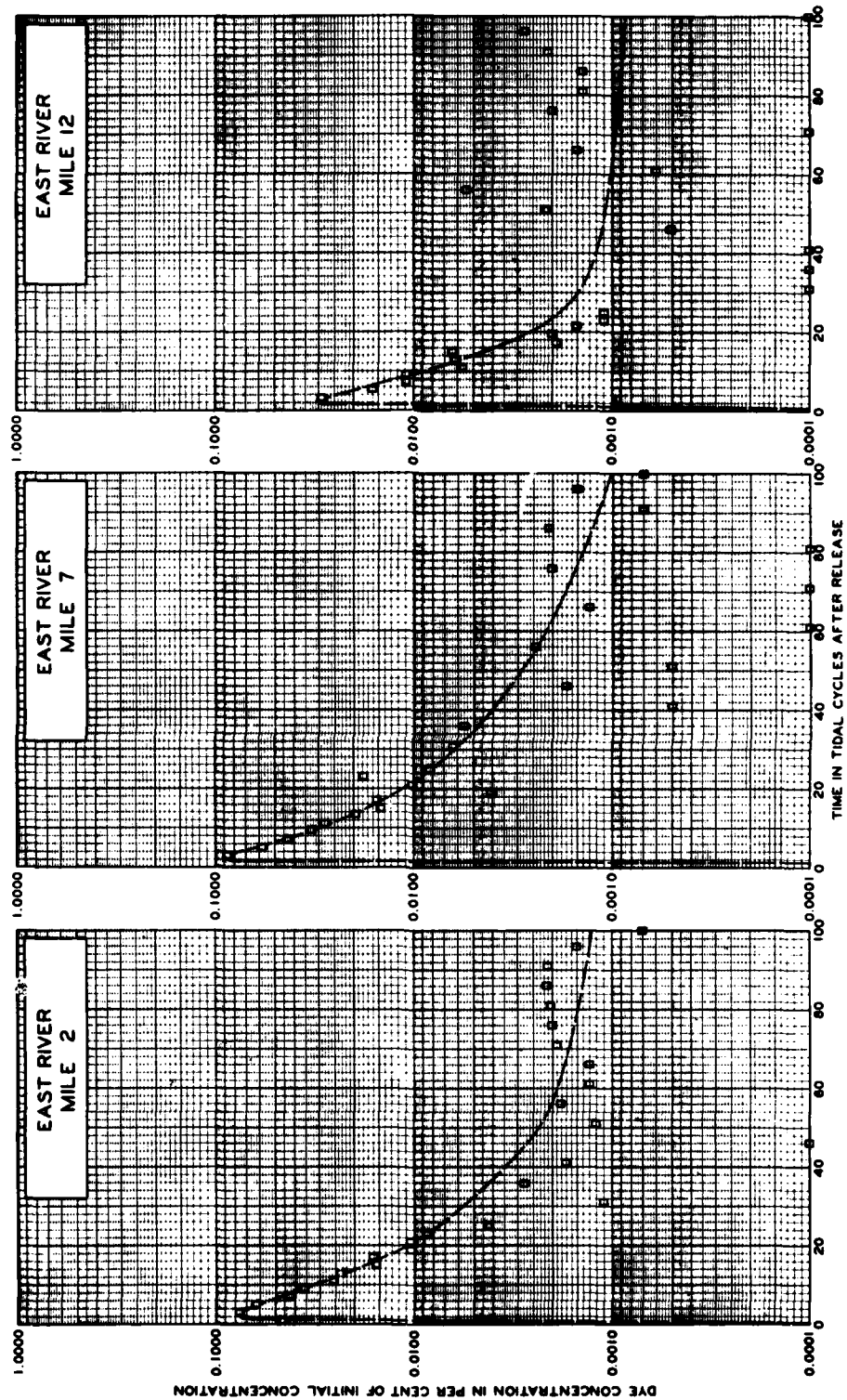
PLATE 68



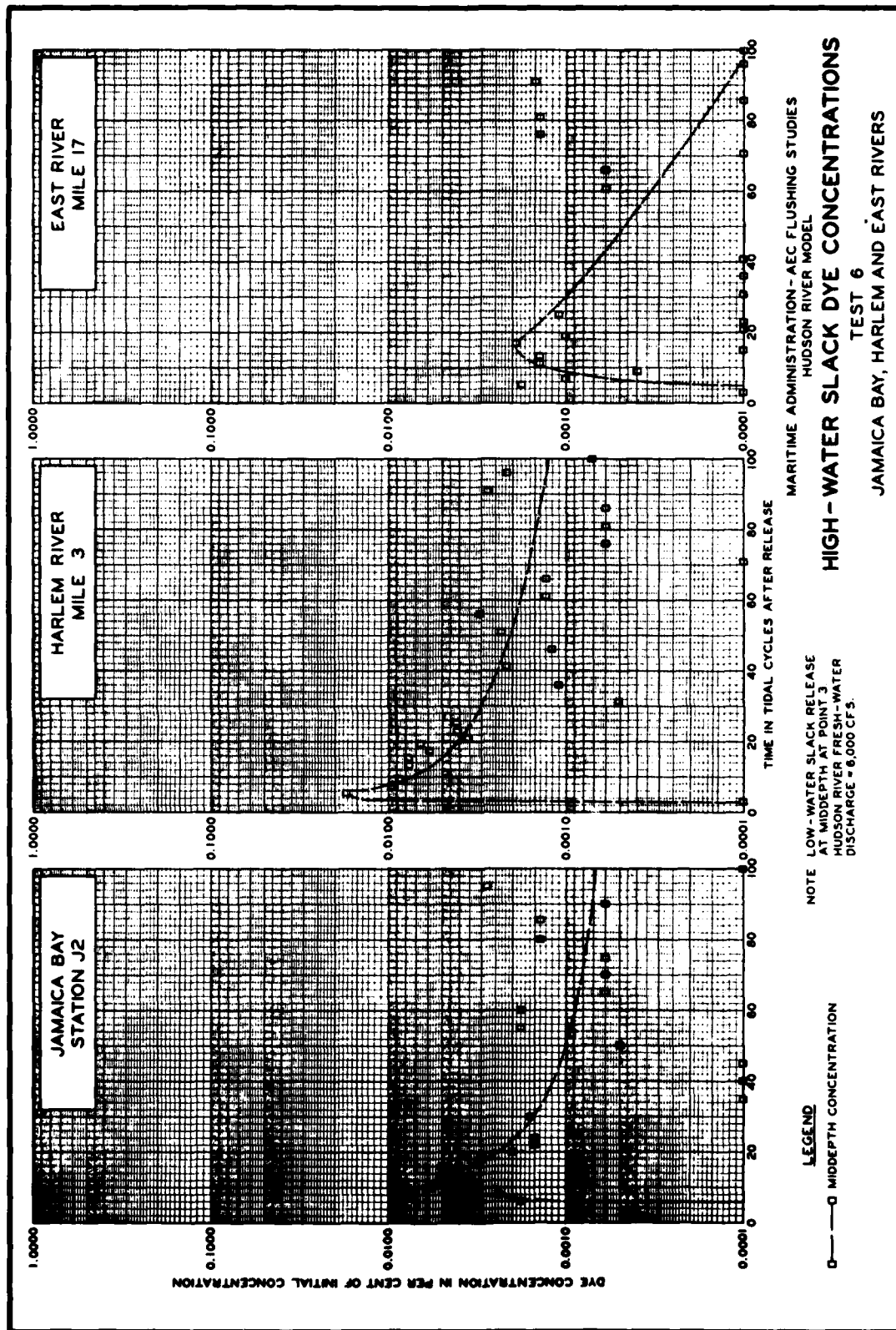


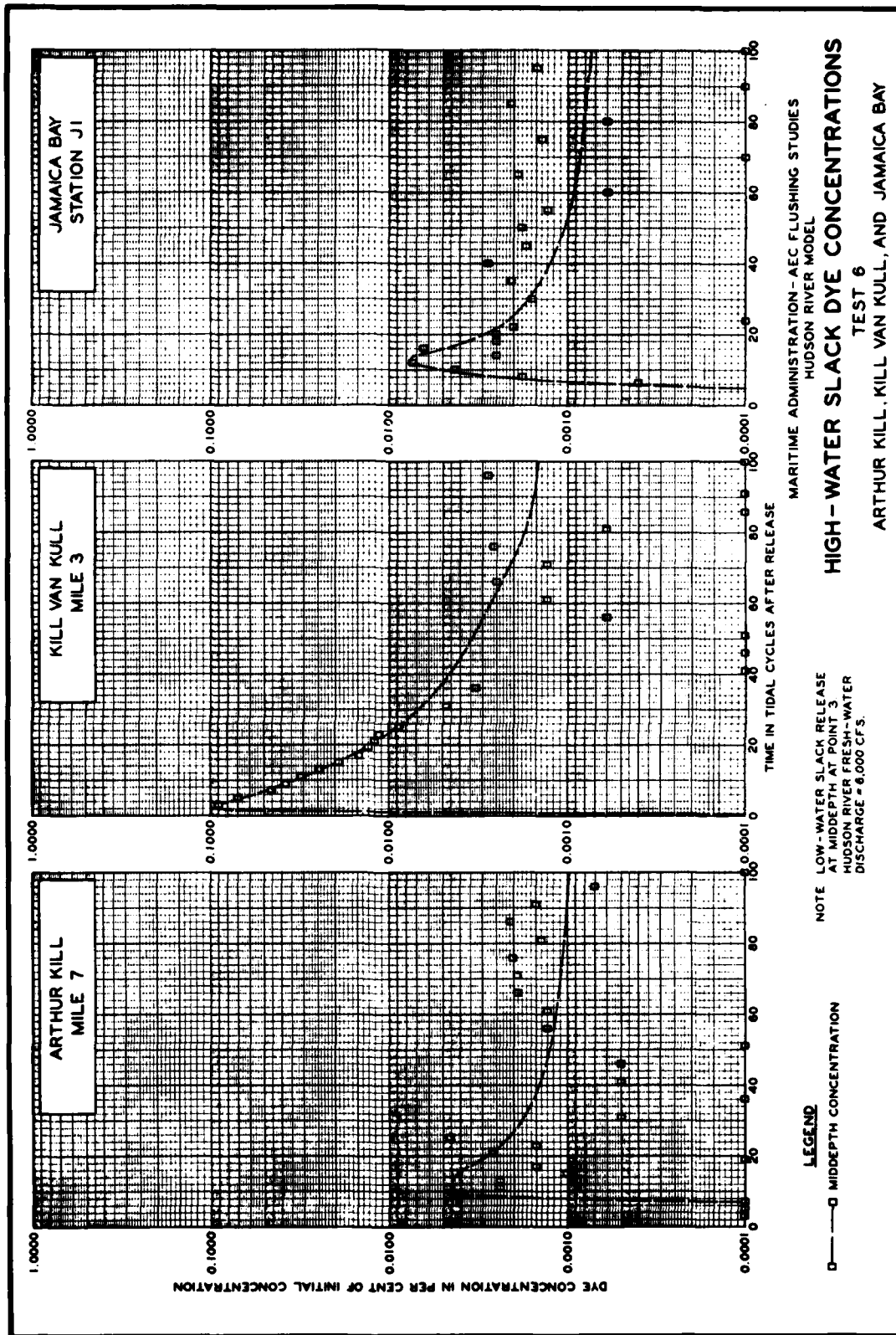


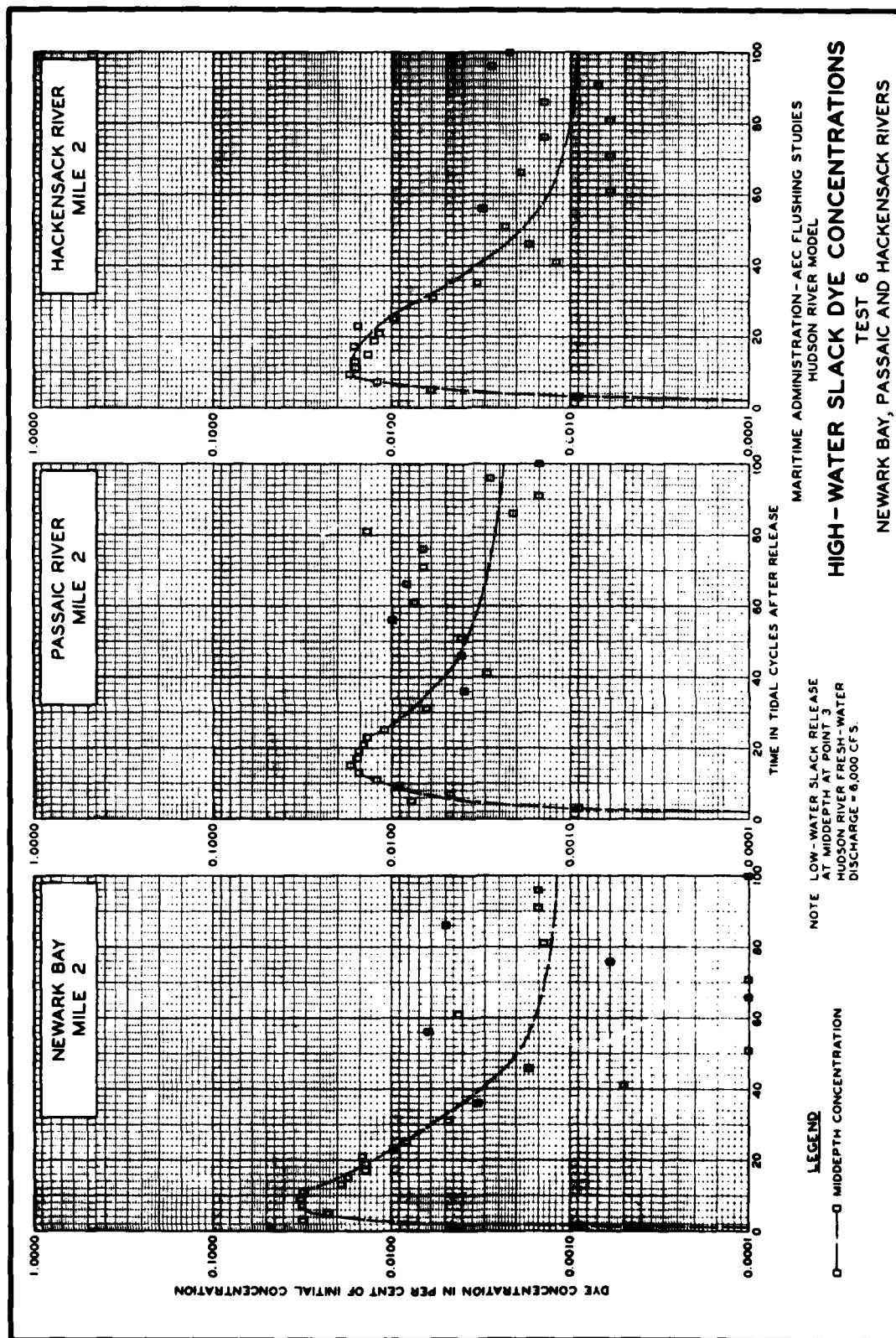


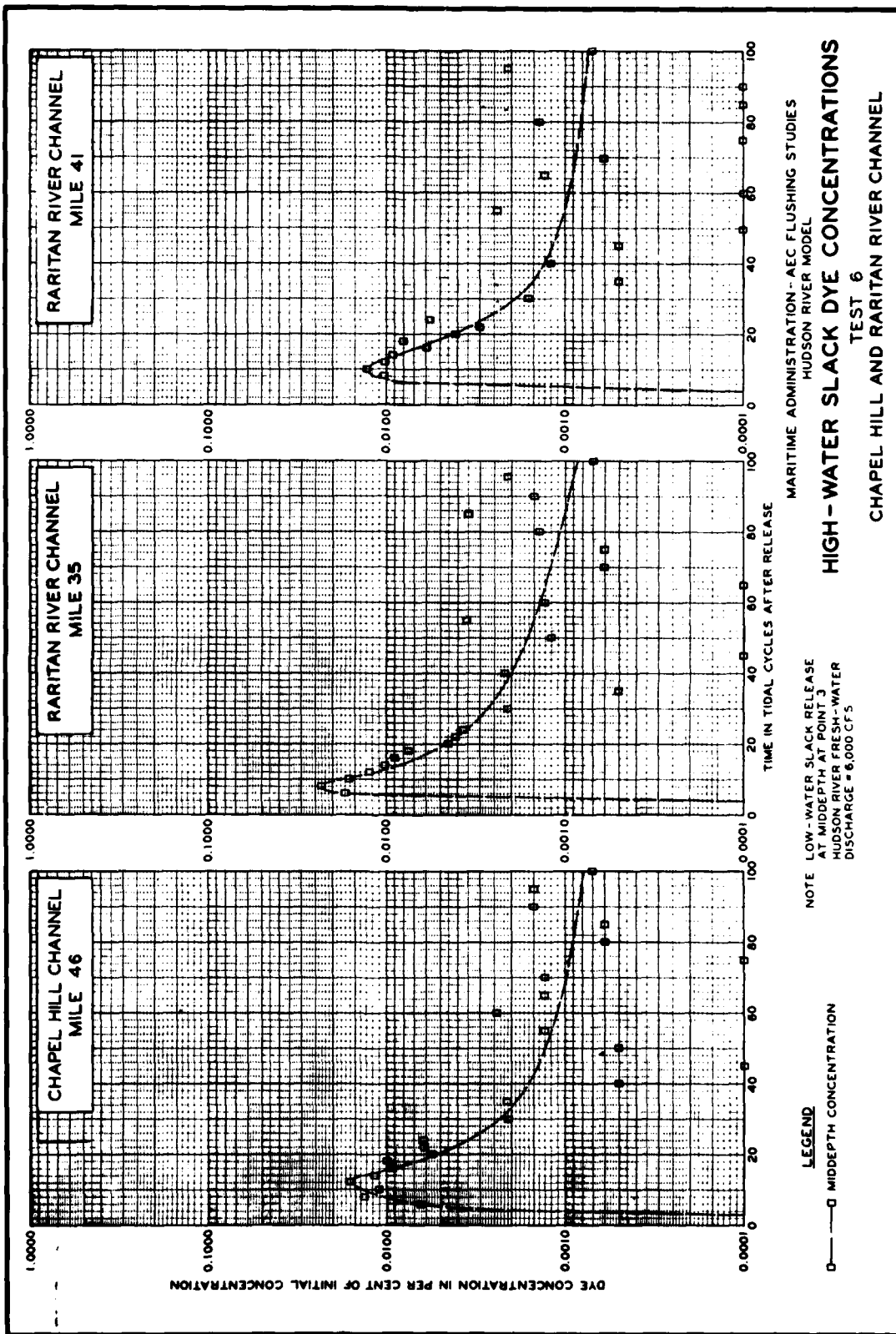


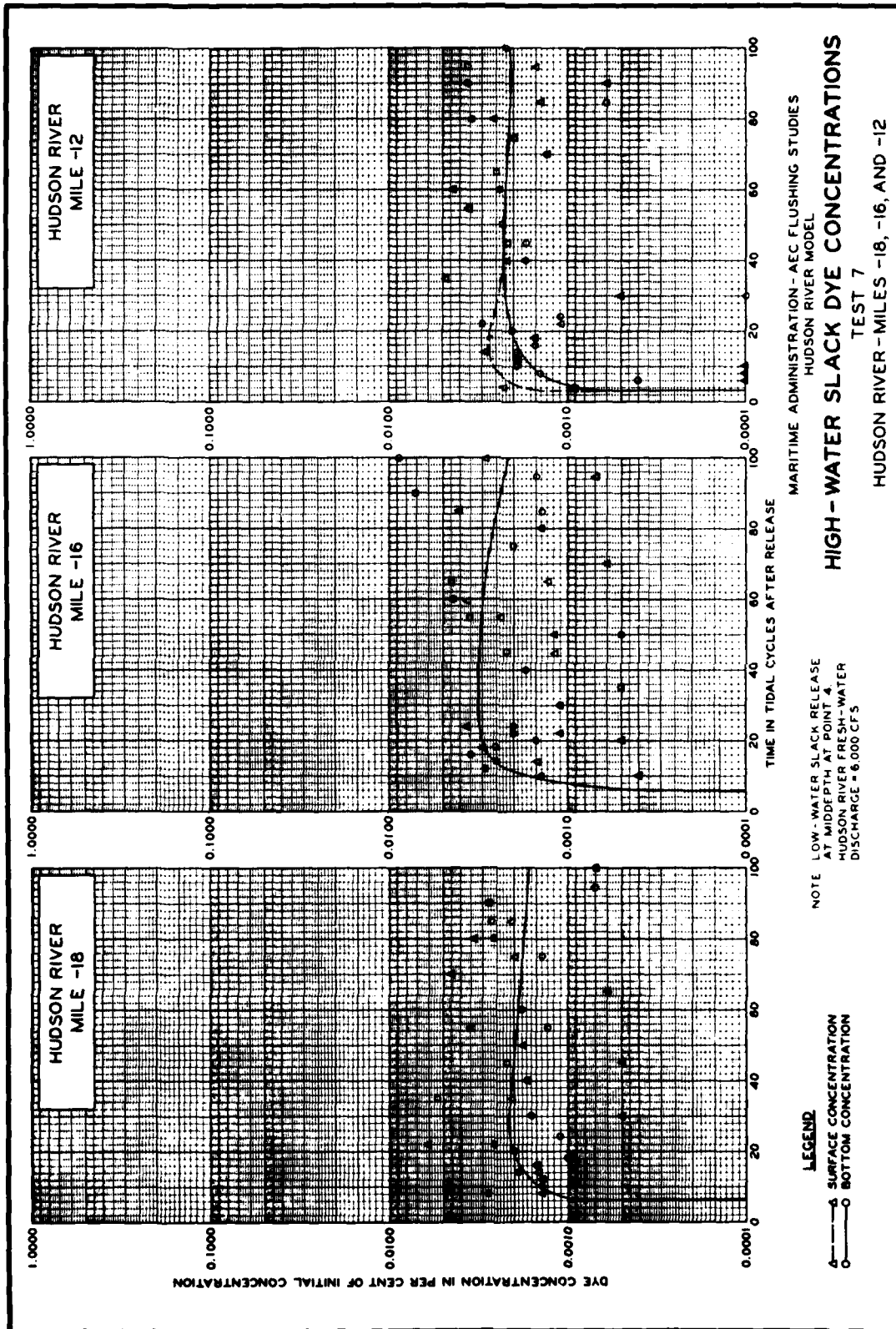
MARITIME ADMINISTRATION - AEC FLUSHING STUDIES  
HUDSON RIVER MODEL  
**HIGH - WATER SLACK DYE CONCENTRATIONS**  
TEST 6  
EAST RIVER - MILES 2, 7, AND 12

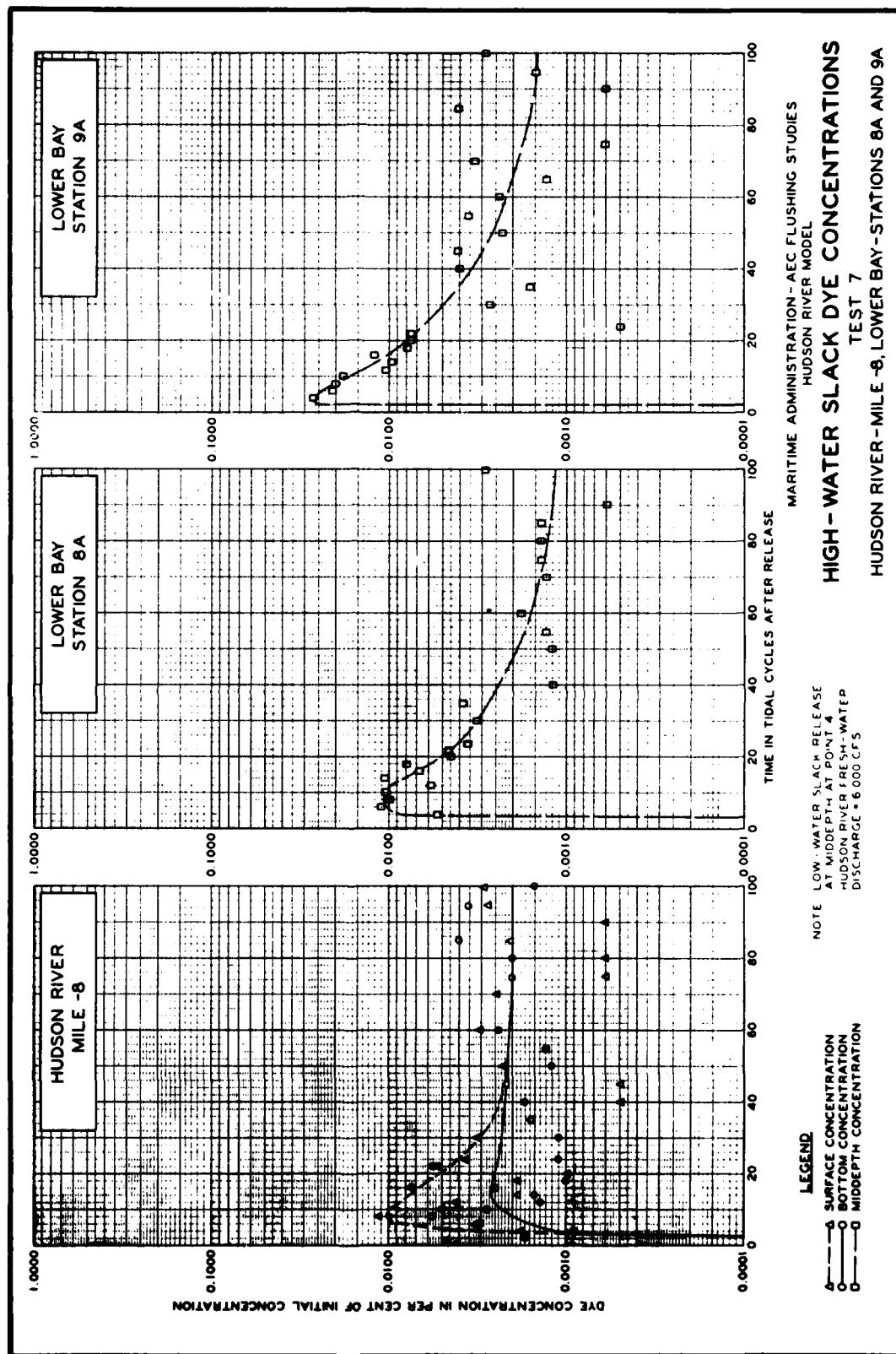




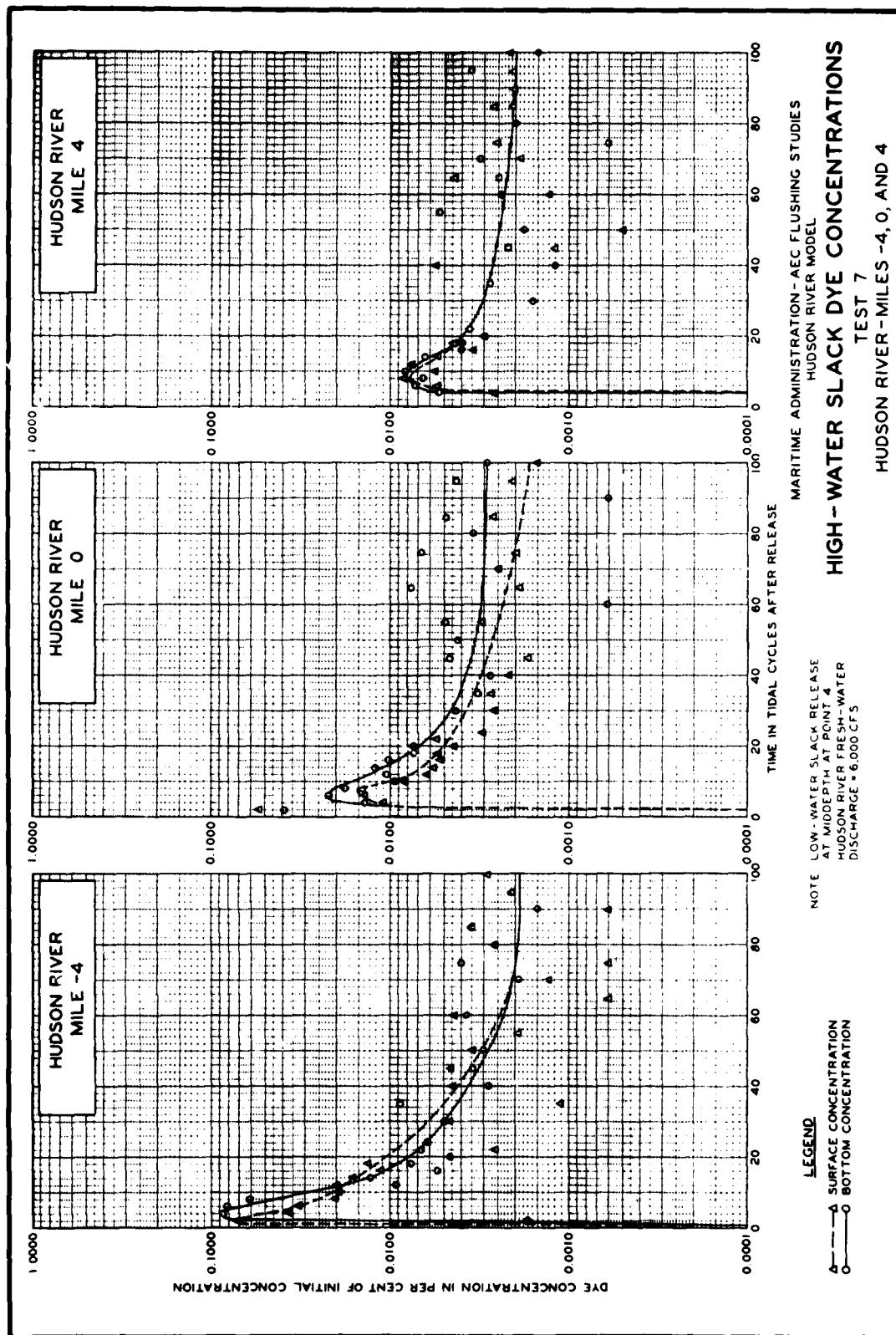




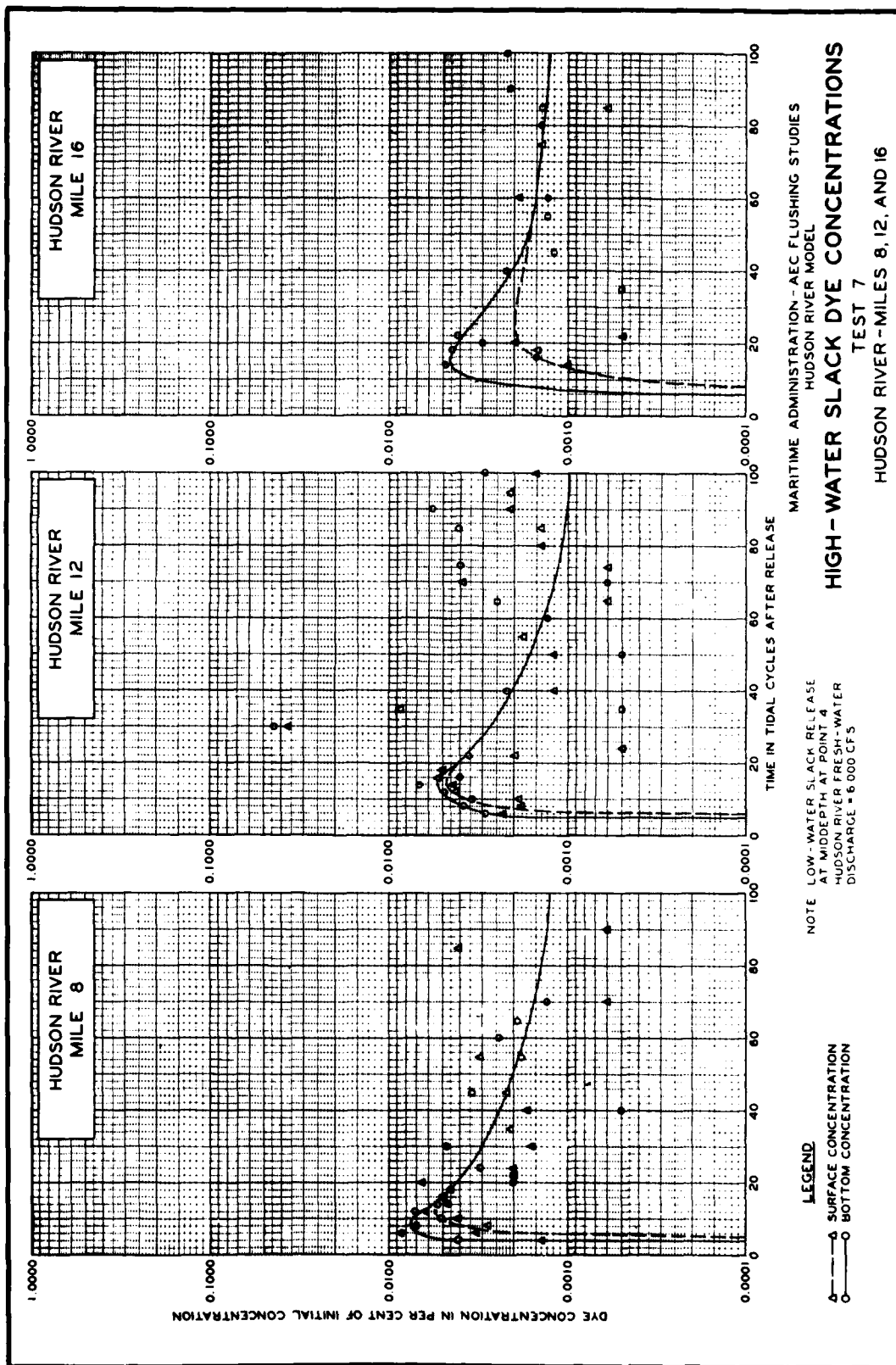


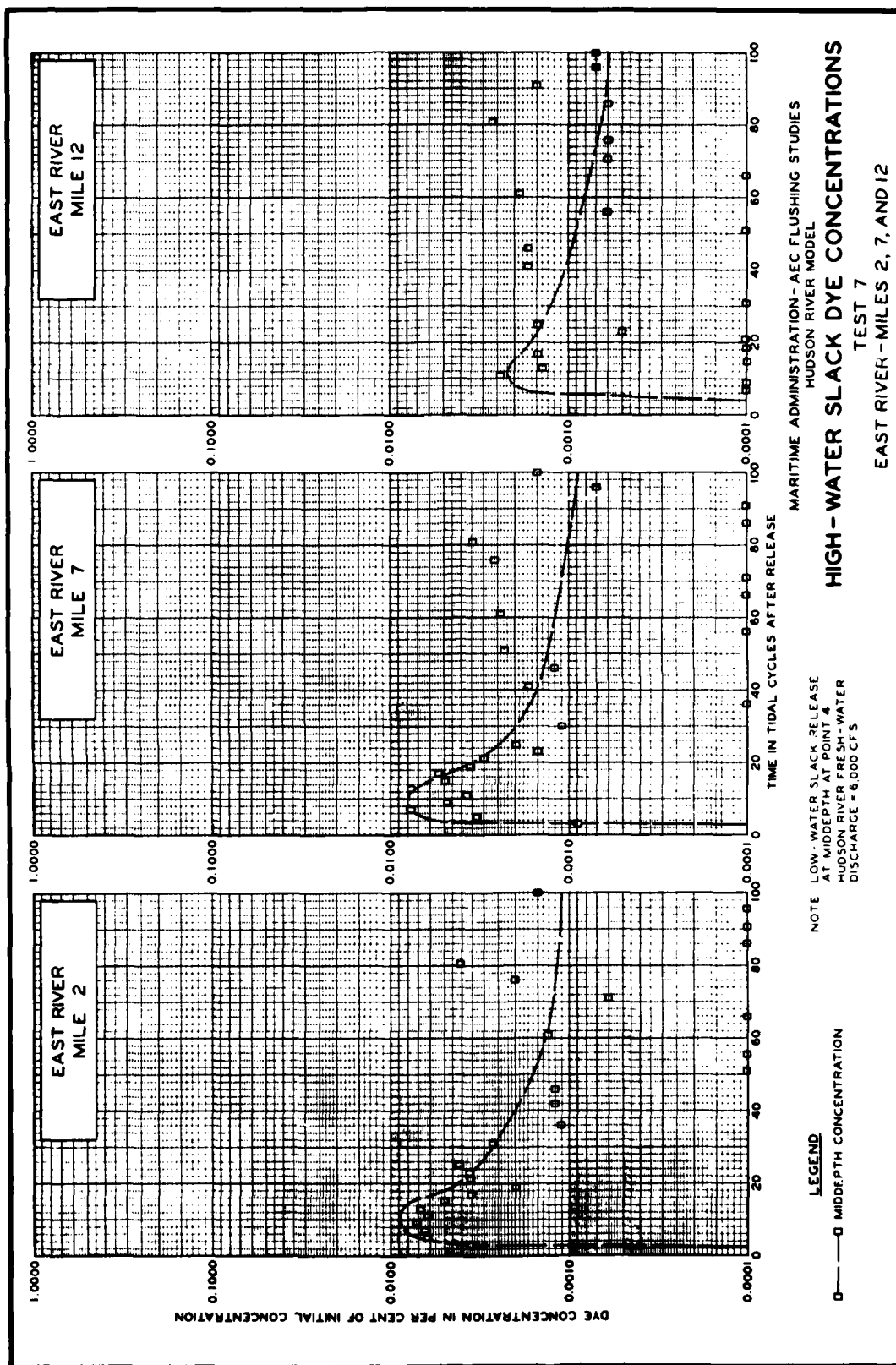


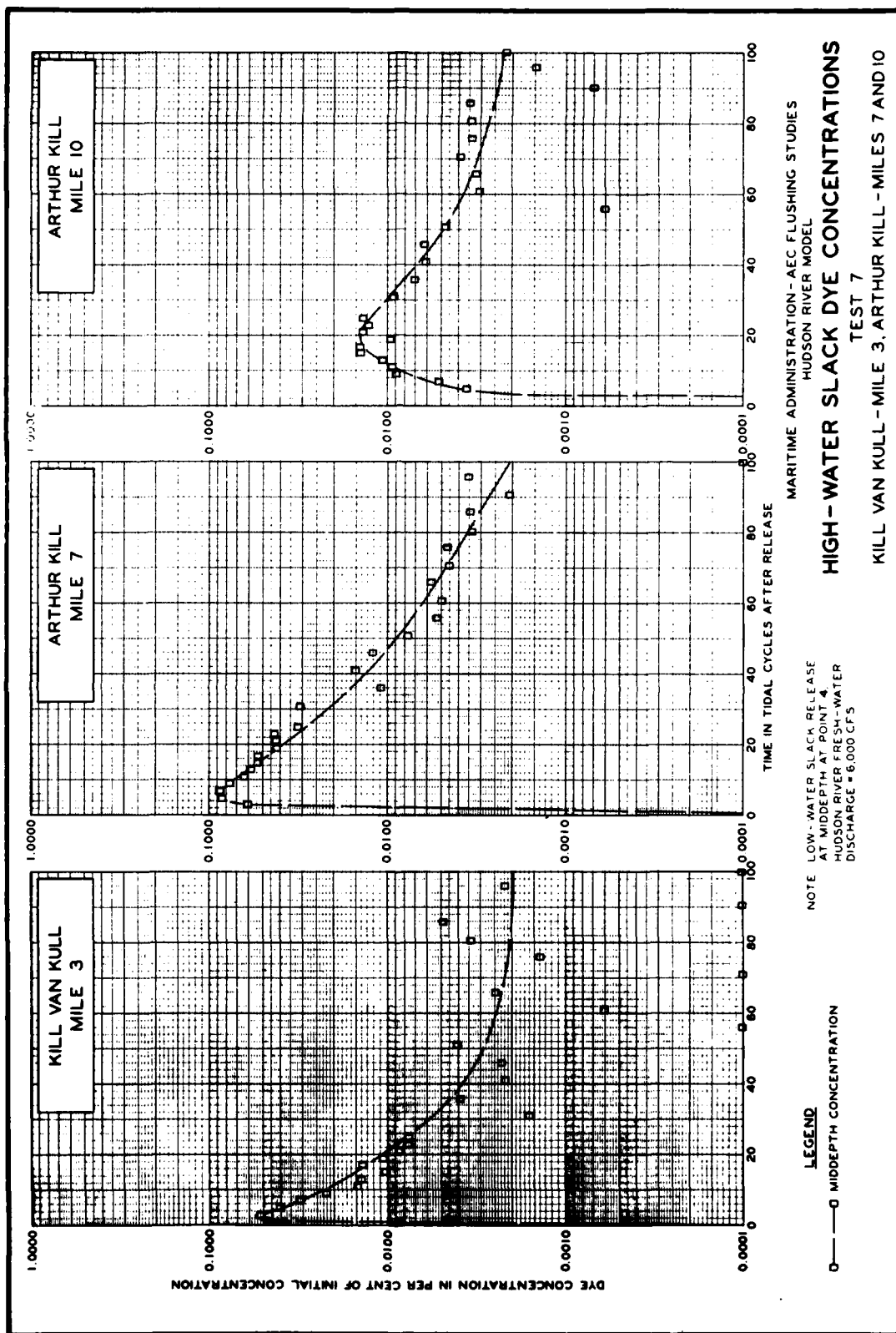


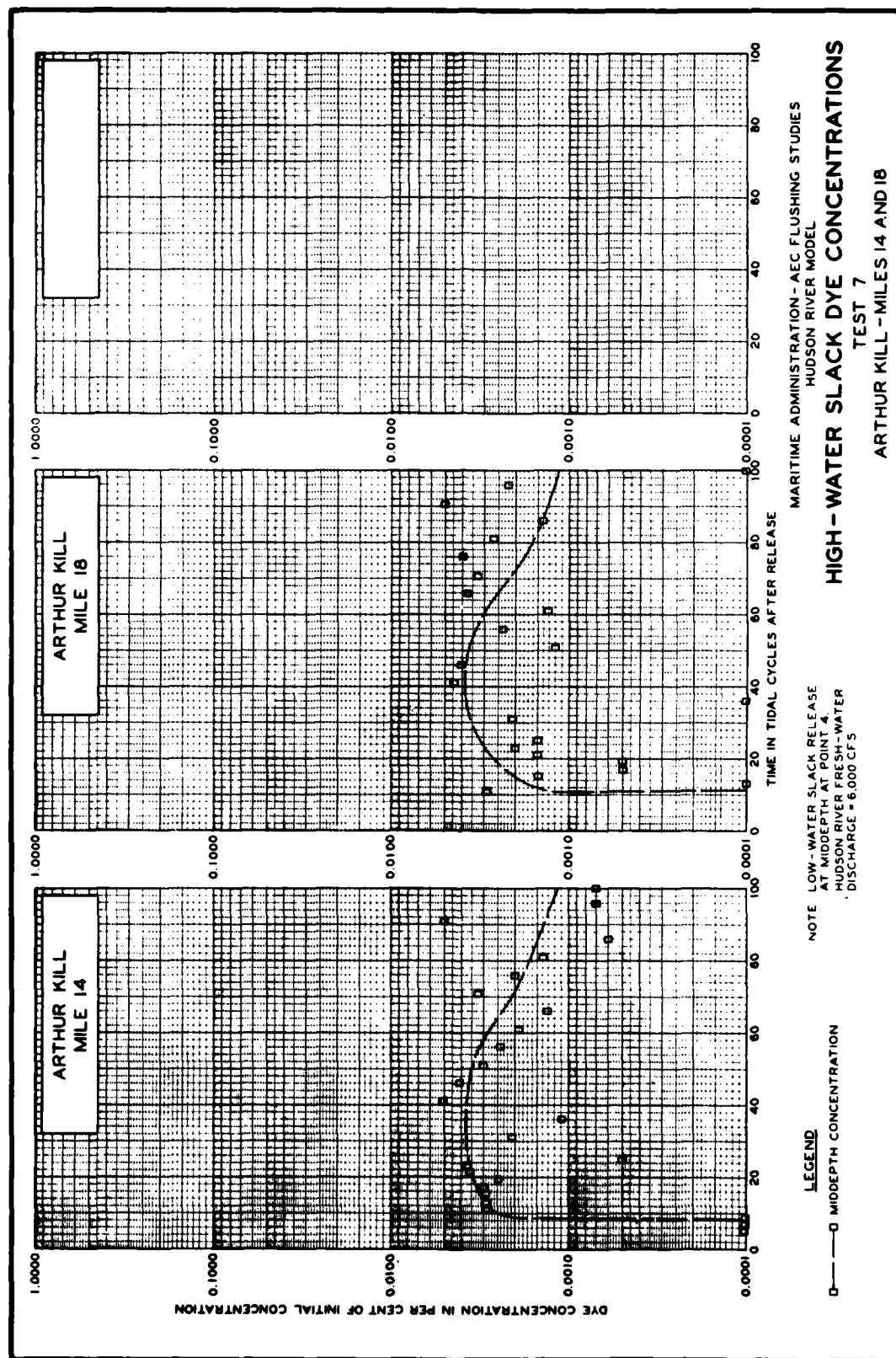


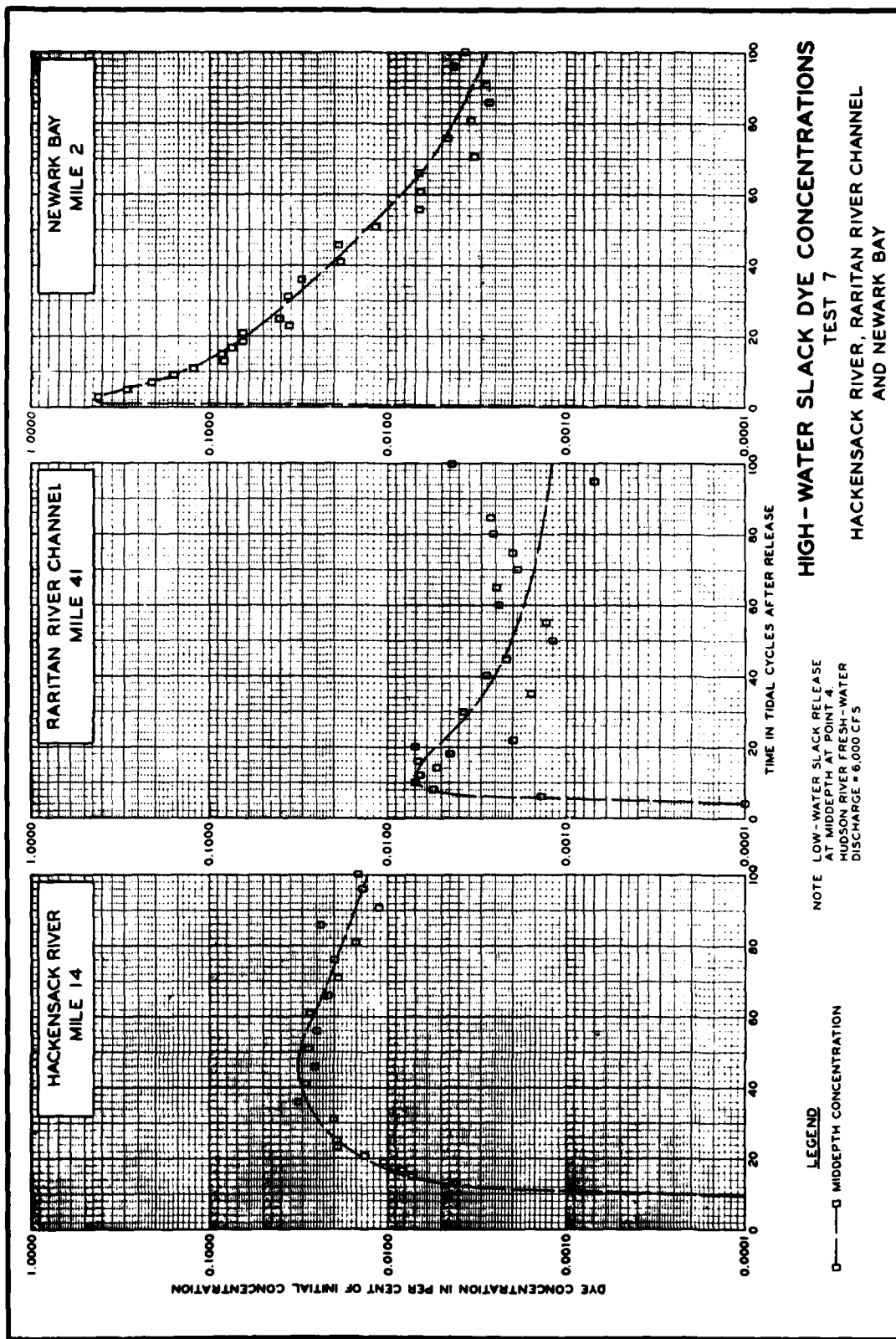




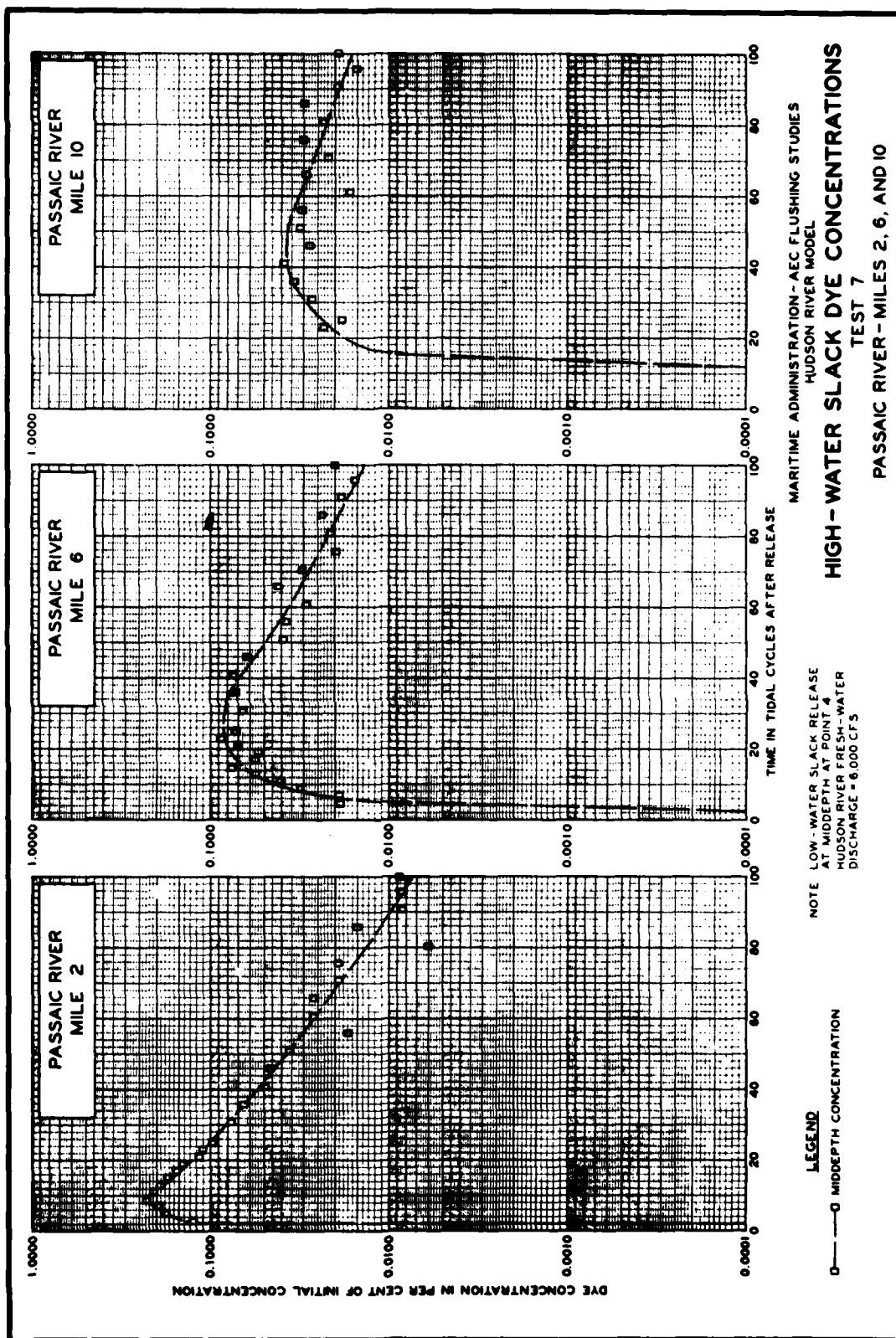


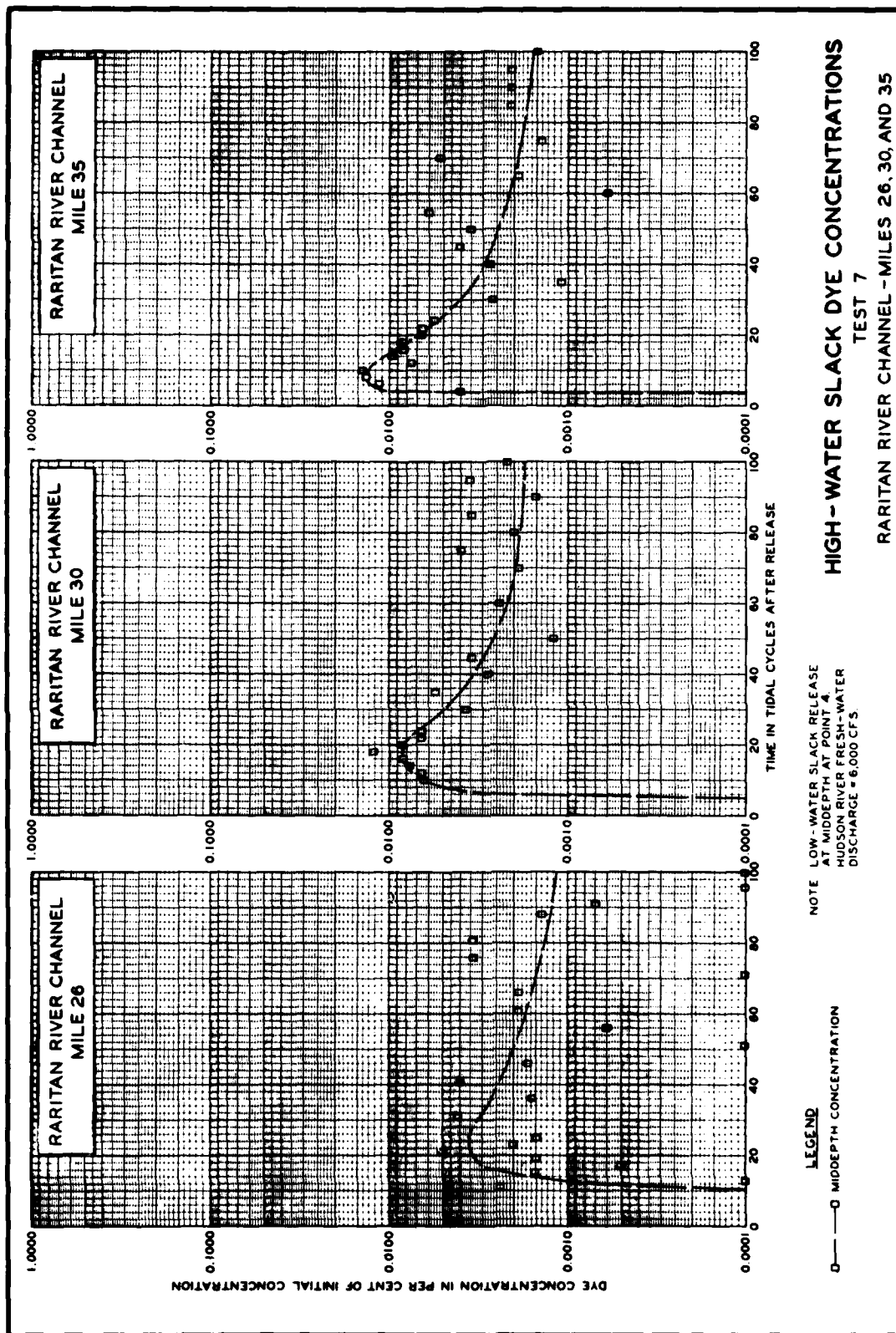




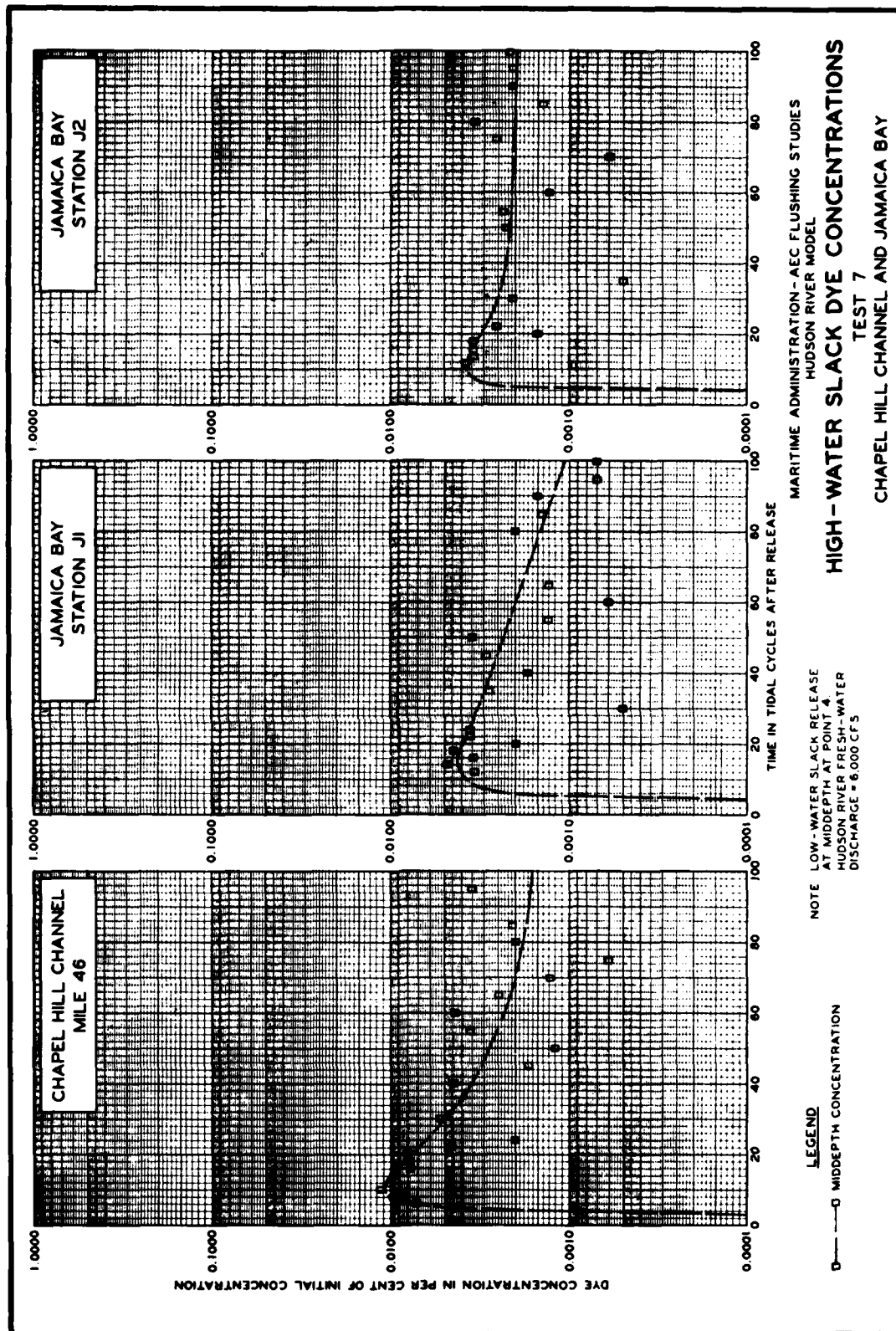


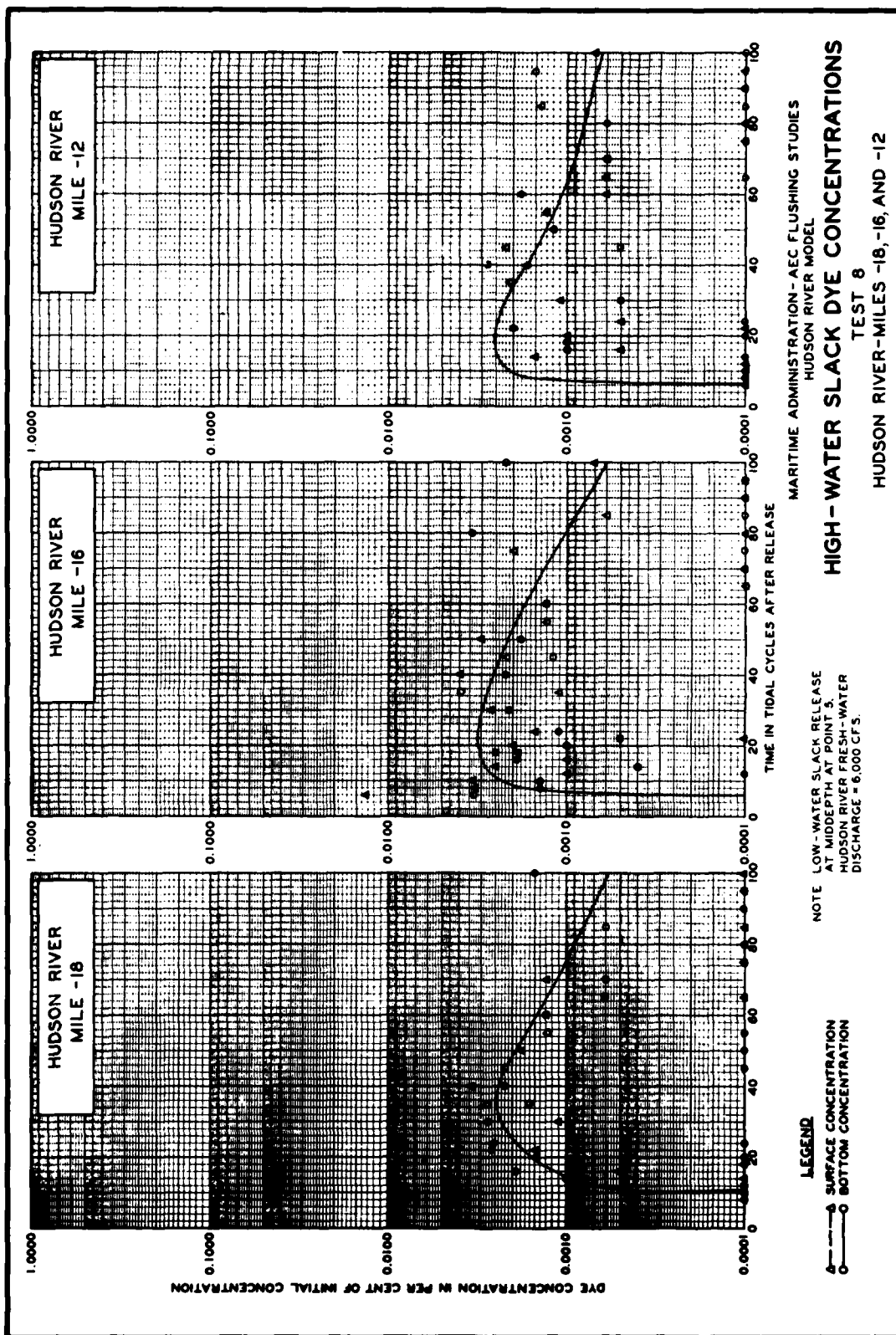


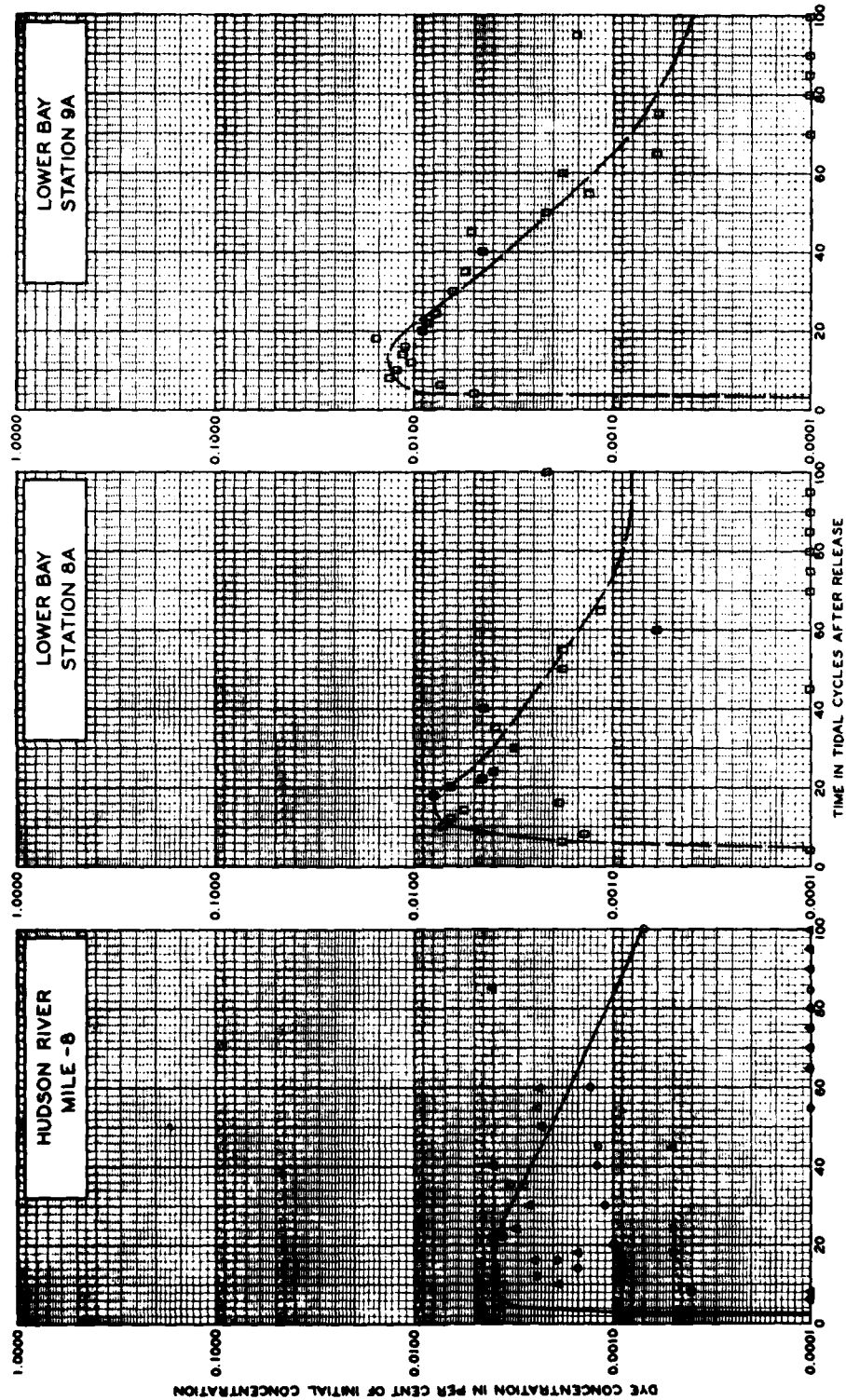












# LEGEND

- △ SURFACE CONCENTRATION
- BOTTOM CONCENTRATION
- MIDDEPTH CONCENTRATION

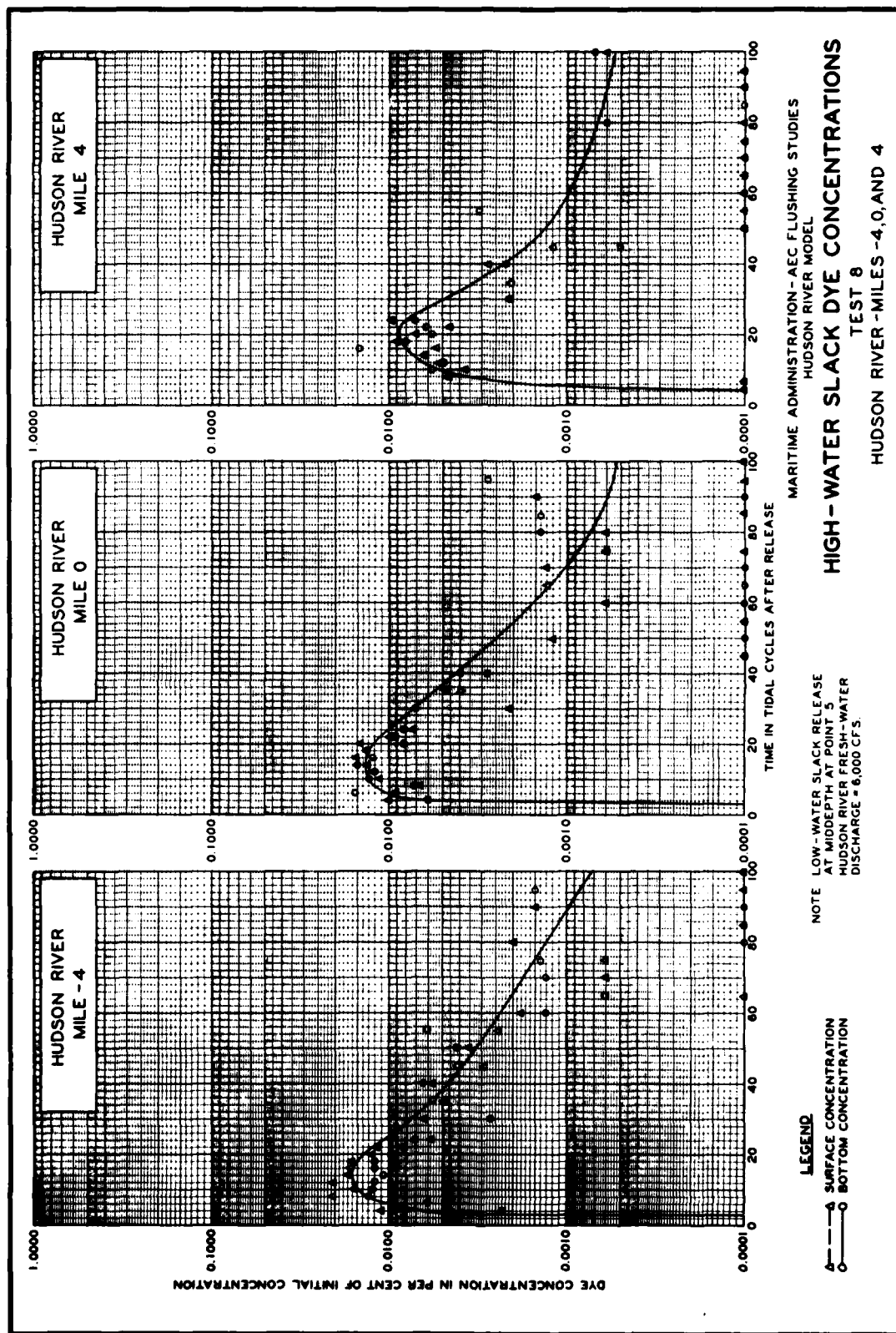
NOTE LOW-WATER SLACK RELEASE  
AT MIDDDEPTH AT POINT 5  
HUDSON RIVER FRESH-WATER  
DISCHARGE = 6,000 CFS.

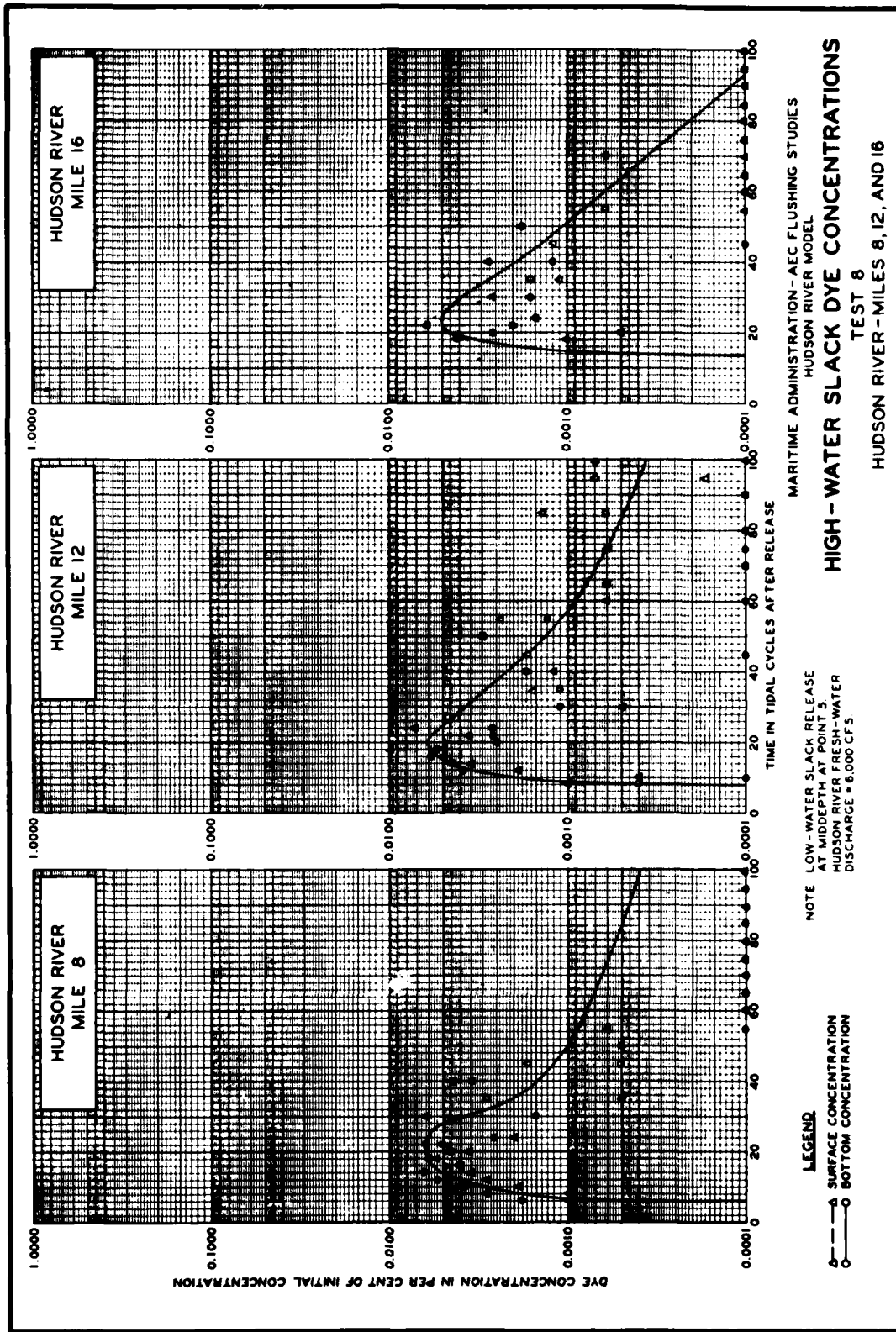
MARITIME ADMINISTRATION - AEC FLUSHING STUDIES  
HUDSON RIVER MODEL

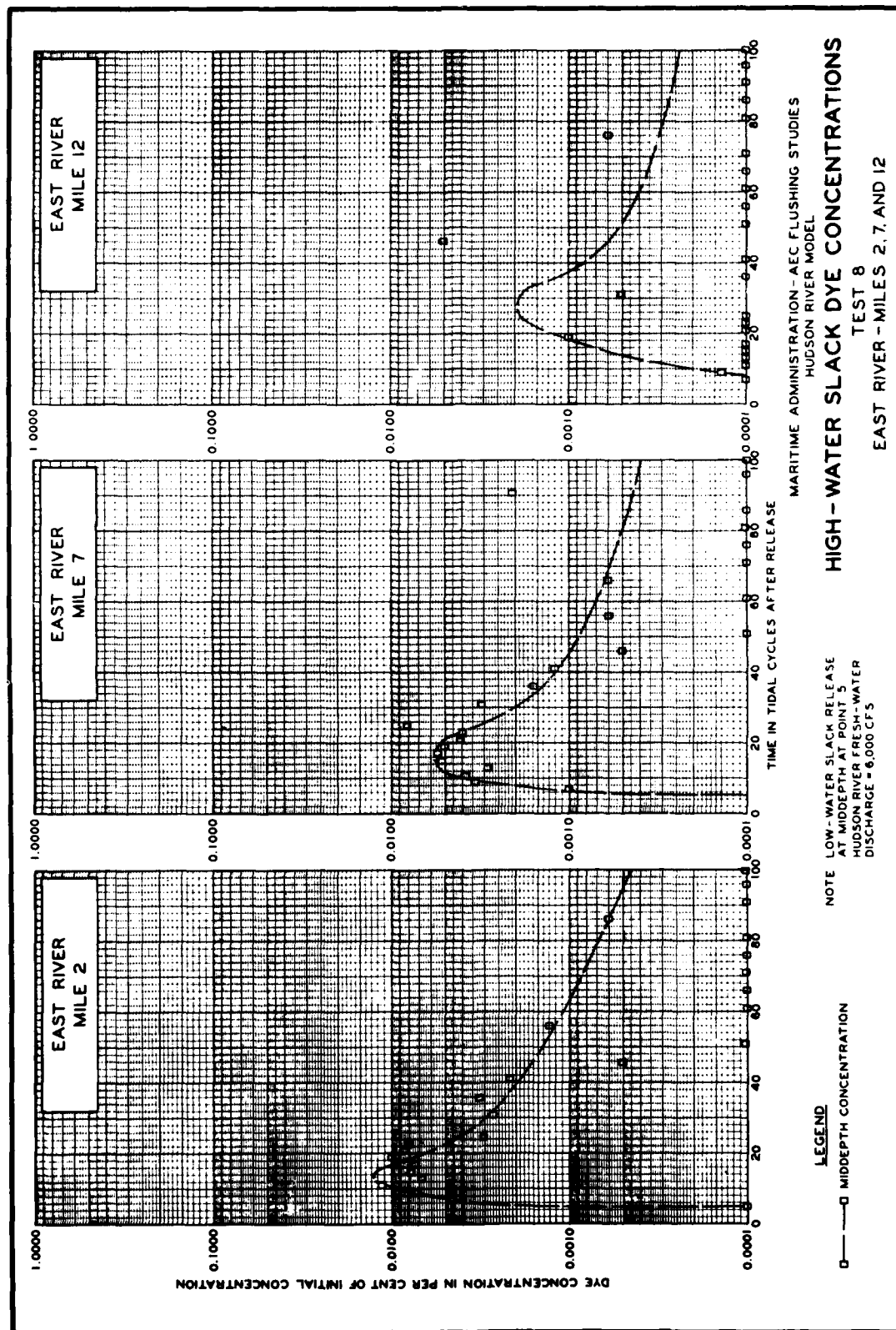
## HIGH-WATER SLACK DYE CONCENTRATIONS

TEST 8

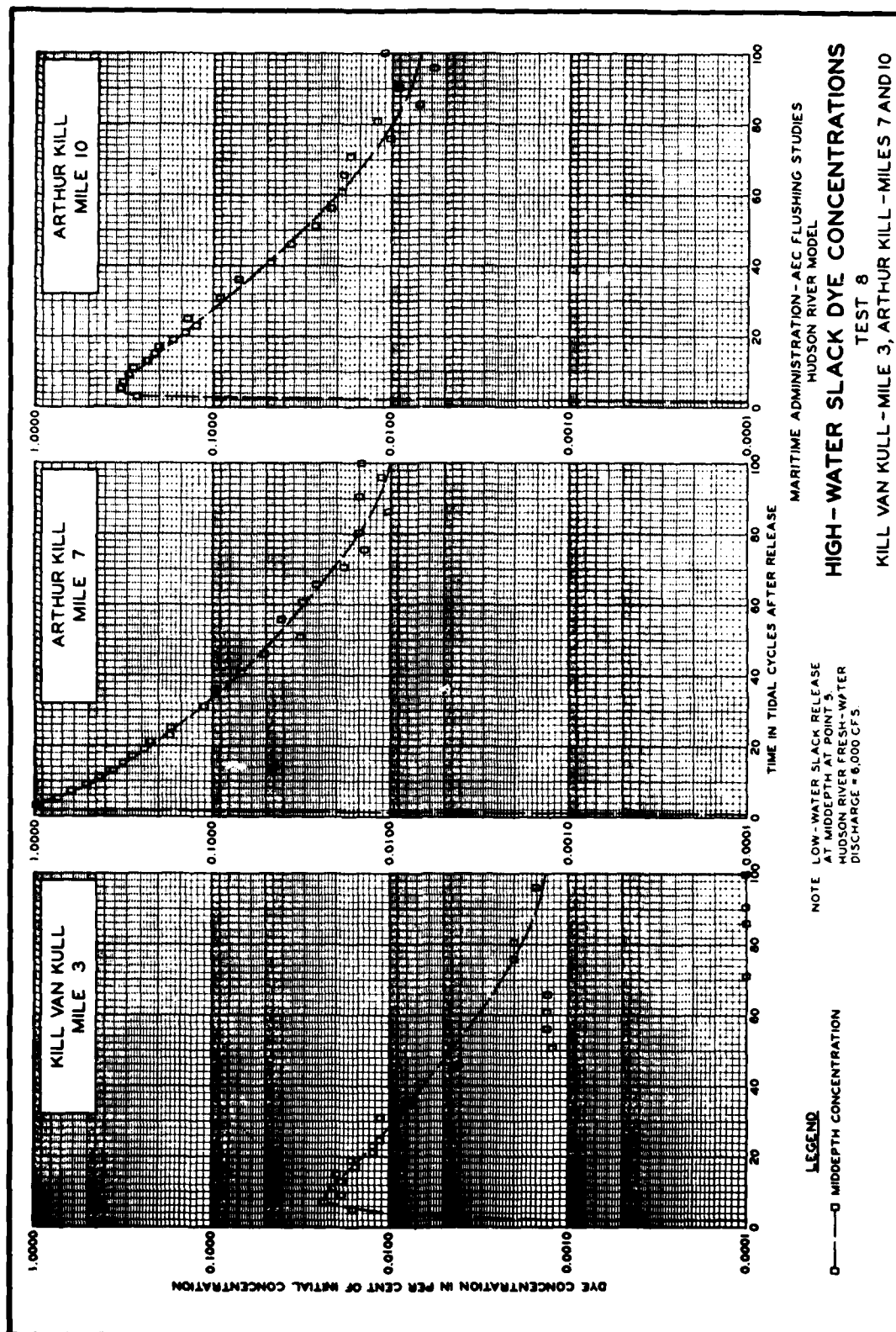
HUDSON RIVER-MILE -8, LOWER BAY-STATIONS 8A AND 9A

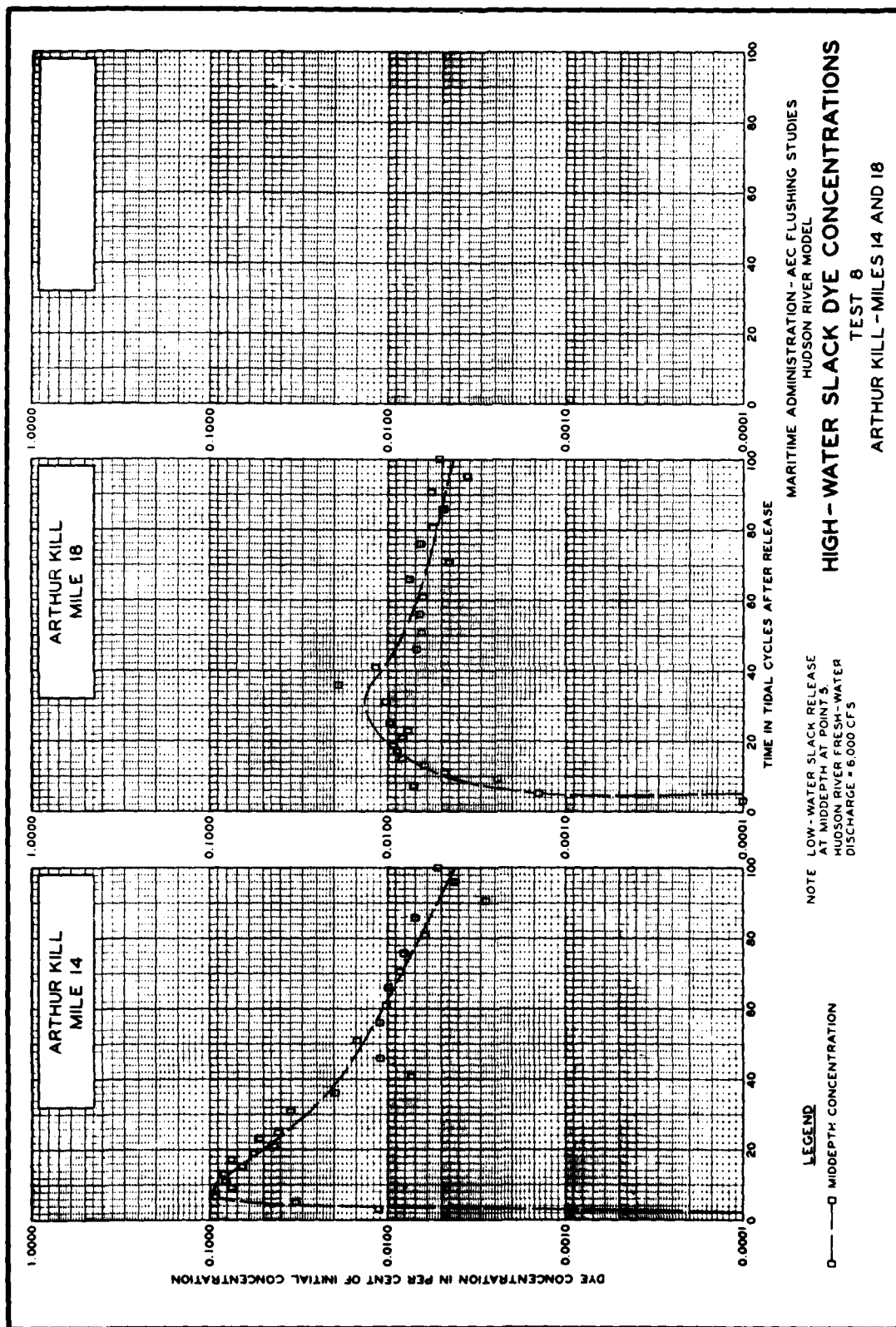




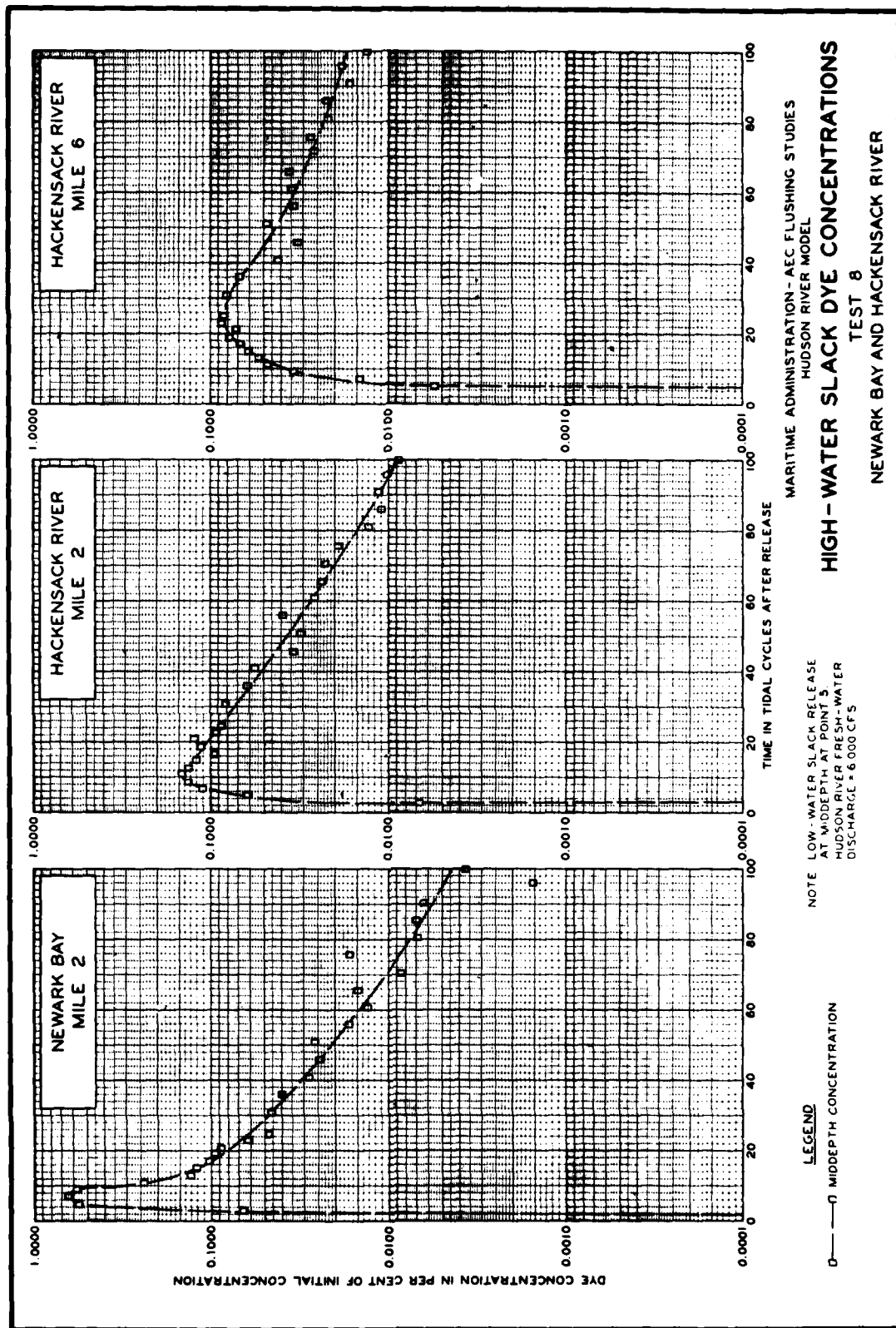


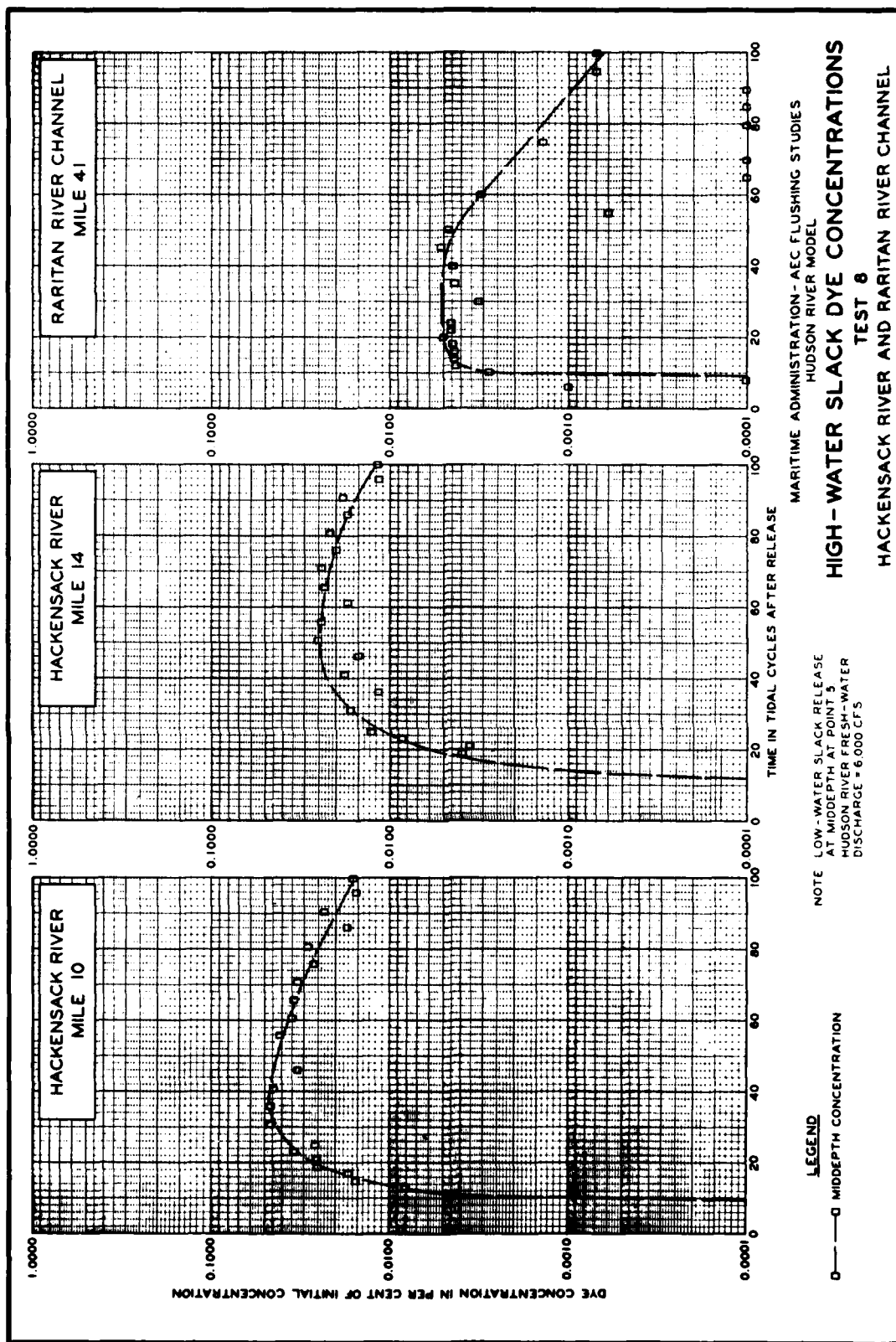


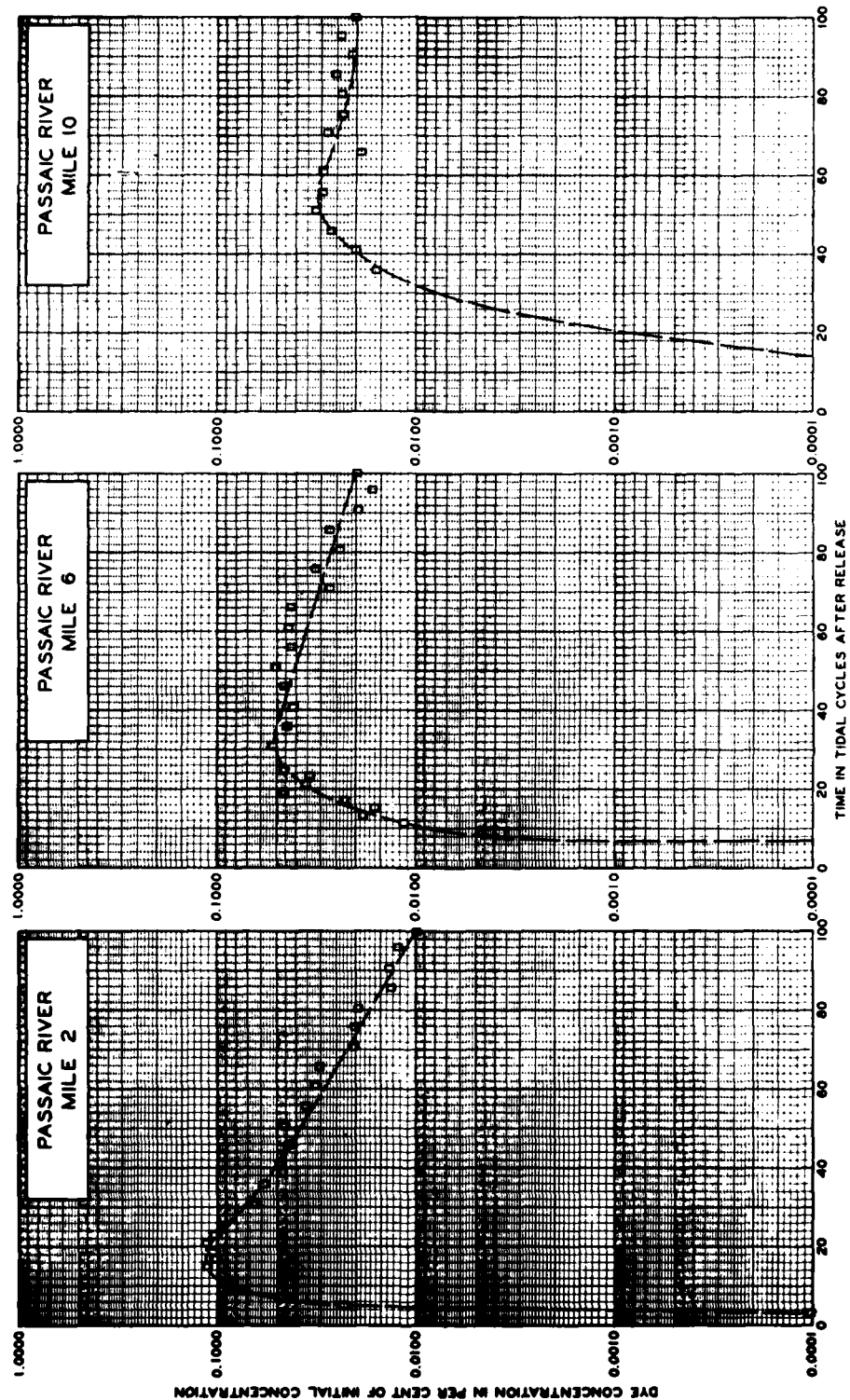












MARITIME ADMINISTRATION - AEC FLUSHING STUDIES  
HUDSON RIVER MODEL  
**HIGH - WATER SLACK DYE CONCENTRATIONS**  
TEST 8  
PASSAIC RIVER - MILES 2, 6, AND 10

NOTE LOW-WATER SLACK RELEASE  
AT MIDDDEPTH AT POINT 5  
HUDSON RIVER FRESH-WATER  
DISCHARGE = 6,000 CFS

LEGEND  
— MIDDEPTH CONCENTRATION  
○

